Why Atlanta wants to invest $291 million in **rail transit** facilities by 1980 . . . . . p. 14

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RAILWAY AGE WEEKLY

Coming:

New auto-parts cars by the thousands p. 9

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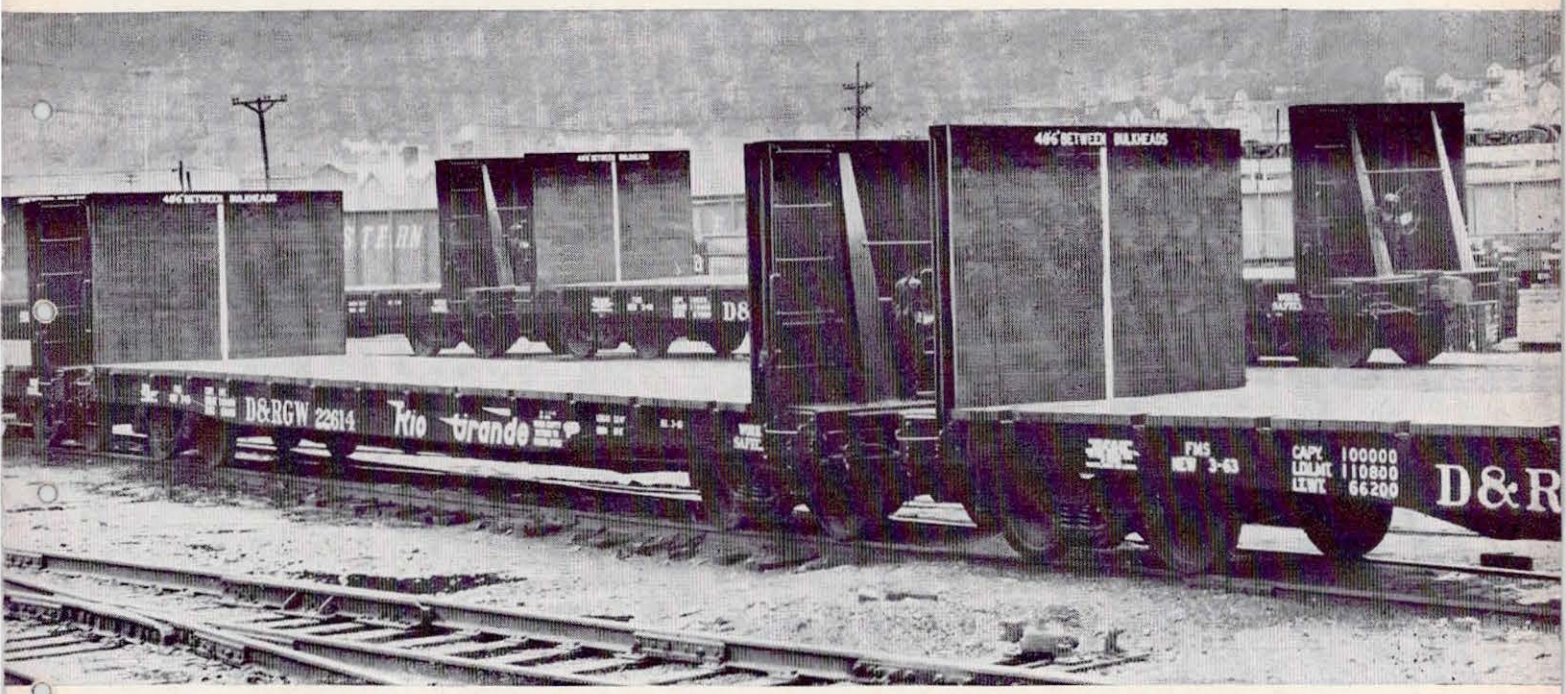
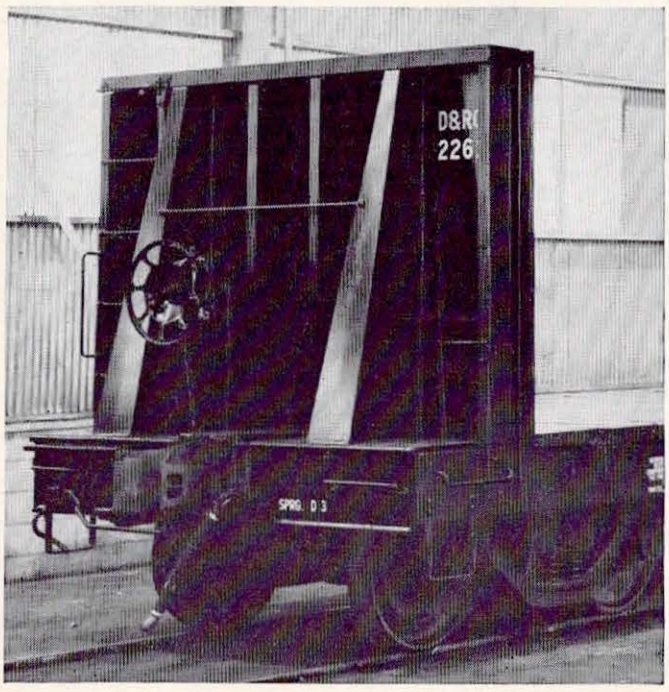


D&RGW Buys 100 More of These Bethlehem-Engineered Bulkhead Flat Cars

Steel

Steel for Strength



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RAILWAY AGE WEEK AT A GLANCE

June 3, 1963 • Vol. 154, No. 21

Coming: New auto-parts cars

A whole new breed of giant rail cars for hauling automobile parts is on the way. The giants will make today's 40- and 50-foot auto-parts cars look like pygmies.....**p.9**

Atlanta still pushes for a transit system

A full-scale publicity campaign is at work to convince Georgia voters of the city's need for an independent rapid transit system that would cost $291 million.....**p.14**

JFK backs transit plan for Washington

A $793-million program that includes $112 million for 693 rapid transit cars and 53 rail commuter cars has been proposed for the nation's capital and its environs **p.16**

NY commuter-car need called 'critical'

In a report to the Governors of New York, Connecticut and New Jersey, the Tri-State Transportation Committee says the replacement of overage cars will cost $260 million **p.17**

Japan's Tokaido line: A report in depth

Here's a report by G.M. Magee, the AAR's director of engineering research, on the 320-mile, high-speed "super-railroad" being built between Tokyo and Osaka.....**p.18**

RI streamlines its traffic department

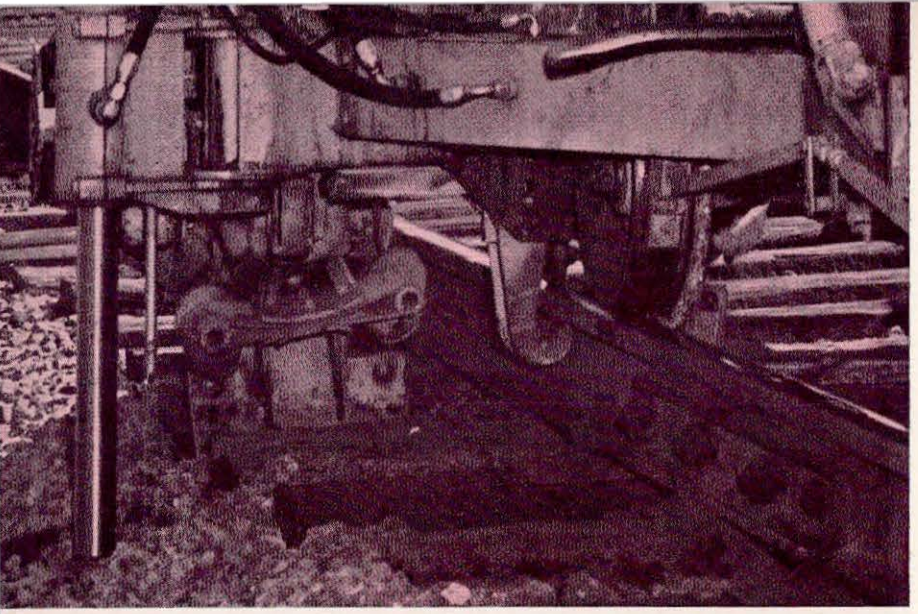
The Rock Island, following a six-month study, has announced a series of changes in its sales efforts that are designed to give its customers better service. **p.27**

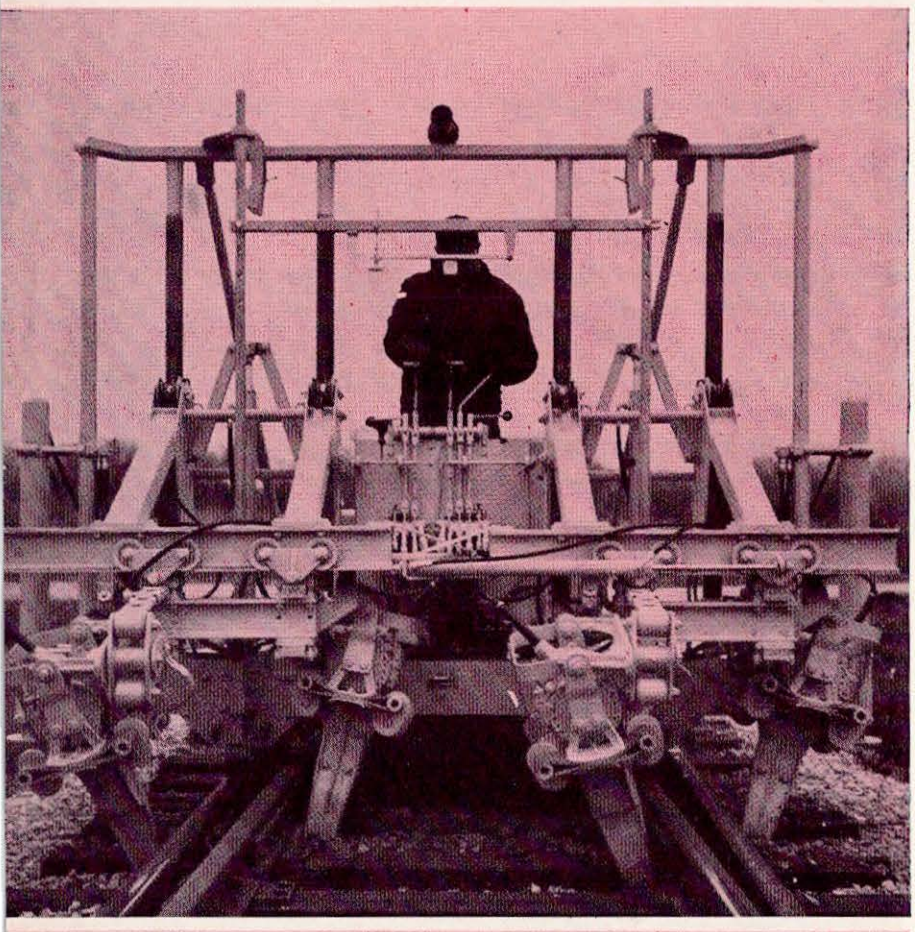
Integral trains herald a rail 'revolution'

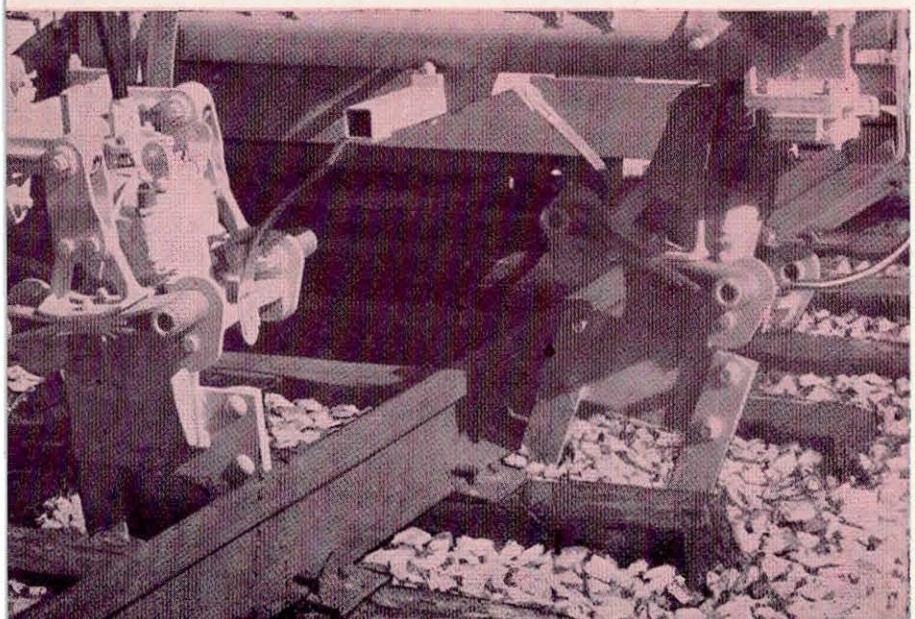
The feeling at an RSMA seminar in Chicago was that integral trains are a 'here and now' economic promise of great things to come **p.32**

'Get the animal trainer . . .'

A new series of advertisements for the General American Transportation Corp. featuring various members of the animal world has created some ad-agency problems **p.34**







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RAILWAY AGE WEEK AT A GLANCE

The Action Page—Better urban transport

The key to economic development of transport in urban centers, it has been cogently argued, is to establish tolls on highway use wherever congestion occurs.....**p.38**

Short and Significant

Work-rules negotiations in Washington . . .

seemed to be making some halting progress last week. One observer's cautious comment, as the face-to-face talks neared the end of their second week: "The atmosphere is better."

Carriers and ops sparred carefully . . .

on a wide range of issues, including the complex fireman-off problem. Indications at midweek pointed to a firming-up of the discussions into more specific written proposals.

The Brotherhood of Railway Signalmen . . .

has asked the National Railway Labor Conference to select a committee to handle a BRS demand for a 25% wage increase which has been rejected by 129 roads under BRS contract.

Air brake train line . . .

may be used for remote control of a helper locomotive midway of a long tonnage train. Tests have indicated the feasibility of sending control signals over the air brake train line.

Six weeks of strike threats . . .

by the Brotherhood of Railway Clerks cost Southern Pacific over $4 million in lost revenues during the first quarter, SP President D. J. Russell told stockholders last week.

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Current Statistics

Operating revenues		Carloadings revenue freight	
3 mos., 1963	$2,238,049,679	20 wks., 1963	10,631,590
3 mos., 1962	2,286,932,404	20 wks., 1962	10,910,266
Operating expenses		Freight cars on order	
3 mos., 1963	1,798,030,564	May 1, 1963	19,872
3 mos., 1962	1,823,291,544	May 1, 1962	14,244
Taxes		Freight cars delivered	
3 mos., 1963	214,320,105	4 mos., 1963	13,300
3 mos., 1962	253,124,089	4 mos., 1962	12,315
Net railway operating income		Serviceable cars	
3 mos., 1963	125,807,318	April 1, 1963	1,414,166
3 mos., 1962	116,556,316	April 1, 1962	1,461,833
Net income, estimated		Cars awaiting repairs	
3 mos., 1963	83,000,000	April 1, 1963	128,690
3 mos., 1962	71,000,000	April 1, 1962	136,151

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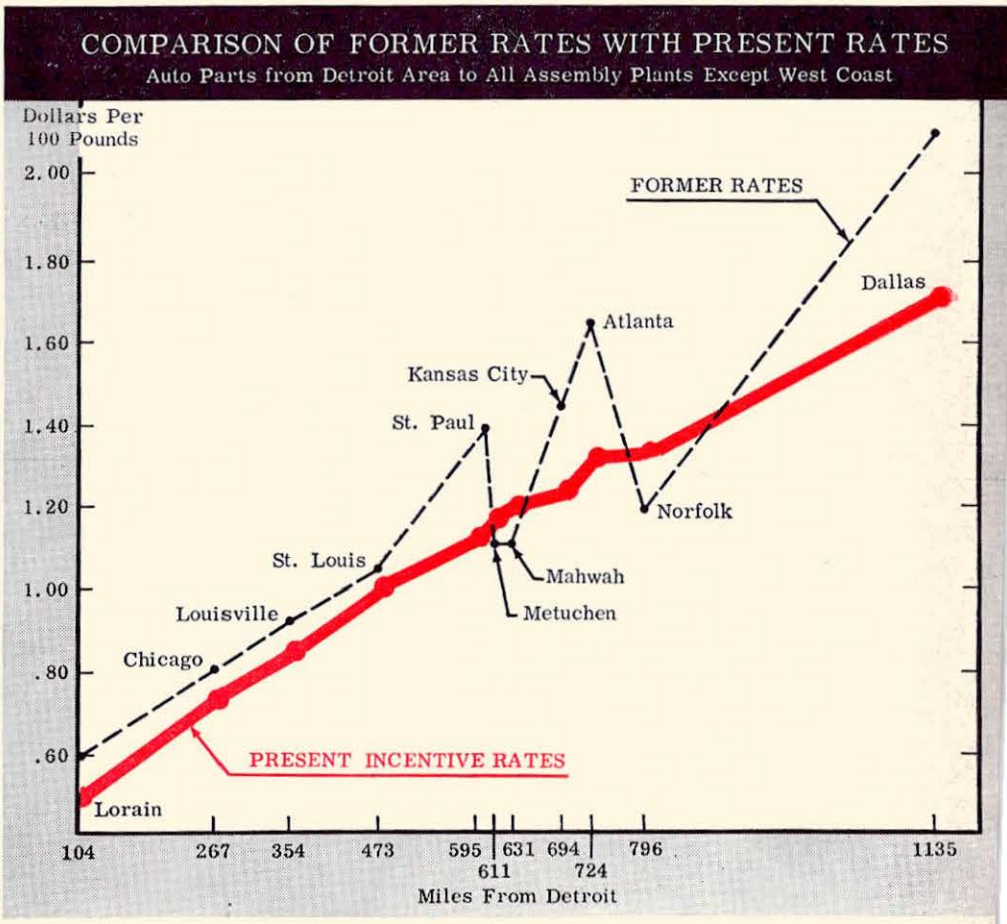
BY THE THOUSANDS:

Big Cars for Auto Parts

King-size 60- and 85-foot cars, now on order or under test, are the forerunners of a new fleet.



Automobile parts aren't very romantic. Compared to gleaming Galaxies or Corvettes or Imperials, all with that pungent new-car smell, auto parts are strictly raw-material stuff.

But the decentralized auto industry—with parts suppliers here and assembly plants there—can't operate with any degree of efficiency or profitability unless the raw materials move to the assembly lines where they're needed, when they're needed and at a price the auto makers can afford.

New cars today are moving by rail. One of every three automobiles built in 1963 will ride a railroad from assembly plant to destination or distribution point. Multilevel rack cars have brought on one transport revolution—in which the rail share of finished-auto shipments has climbed from less than 10% a few years ago to an estimated 33% this year.

● **Revolution in parts.** Auto parts now move largely by rail. Yet at least one of the automobile industry's Big Three sees a parts-movement revolution coming that will over-shadow even the upheaval that the rack cars caused. A whole new breed of rail cars is coming—a breed of giants to make today's 40- and 50-foot auto-parts cars look like pygmies.

About a year ago, Ford Motor Company and Santa Fe and Pullman-Standard built an 80-foot cushioned "container" with more than 9,500 cubic feet of space for low-density parts loading. A month ago, Southern Pacific unveiled a 94-foot box car with 10,000-cubic-foot capacity, from Whitehead & Kales' shop. About three weeks from now, Ford and ACF and Wabash (with SP and Louisville & Nashville also partipating) will bring out an 85-foot, 10,000-cubic-foot-capacity box.

Meantime, at least four builders—Pullman-Standard, ACF, Thrall and Greenville Steel Car (plus Santa Fe's Topeka shops)—are working on a second parts-car design, a 60-foot cushioned unit to handle the high-density components that will make up the auto industry's 1964 models.

● **850 cars ordered.** At last count, more than 850 60-foot cars were on order specifically for auto-parts traffic, and SP itself had another 1,300 big boxes ordered for service which will include the parts business.

As yet, no orders have been placed for 85-foot parts cars. But Ford has indicated it will need about 2,700 cars for its movements—and if other auto makers go along, the total market could reach figures to gladden the heart of every car-builder. Ford figures that 4,700 60-foot and 85-foot cars will replace about 9,000 of its 40-foot and 50-foot cars—and a projection for the entire auto industry points to a potential market for between 15,000 and 20,000 new cars, should all makers adopt the big cars as standard.

Inherent to Ford's approach to the parts-movement operation is a departure from the now-standard car-code system, where a given car is outfitted with interior devices to handle specific items—Ford hoods or Comet quarter-panels or Falcon doors. The new cars will be, as Director of Traffic Eugene S. Knutson puts it, "clean on the inside"—plain box cars with no interior fittings.

● **Efficient loading.** Parts will be containerized. Loaded at the parts plant, they'll move untouched in containers to assembly line, perhaps half-way across

the country. Containers will be loaded in cars cheek to jowl; cars will be loaded to the eaves (thanks to plug doors which will permit loading to within 1 inch of the car's roof.)

Railroads will be doing a better job of serving a valued customer—auto-parts traffic brought in more than $220.9 million in 1961 and more than $142.4 million in the first half of last year. Auto manufacturers will benefit from lower materials-handling costs, and may well gain from lower over-all freight costs with new tariffs now in effect.

High-rated business will be retained on the railroads—with side benefits from better utilization of new cars and release of thousands of good cars for other service to relieve shortages.

● **Ford started with rates.** Ford, a spearhead of the multilevel rack-car movement which has brought new-car traffic back to the railroads, has been working on this revolution in parts traffic for several years—both on rates and on equipment.

Mr. Knutson, Ford's traffic director, recalls the old rate structure as "a monster." Until changes were made, he recalls, "you could change the rate that would apply by nailing a rubber floor-mat into the car—and letting it travel back and forth so as to have 'mixed cargo' in the car. There were ways of marrying light and heavy cars, mixture rules, lead-and-trailer rules and all sorts of gimmicks that applied to give us a certain total level of freight cost. But the use of the gimmicks themselves had no logic. The scale had no relationship to distance or weight. It was a happenstance, with many out-of-line conditions."

As Mr. Knutson tells the story, "We said, 'Let's take out the gimmicks—and, furthermore, we aren't paying enough for our light cars and we're paying too much for our heavy cars. Let's have each car stand on its own.'"

● **'A car is worth so much.'** A car of freight, he points out, "is worth so much to the railroad to haul. Let's give them adequate compensation for hauling it—and let's reduce the charges for those heavier-loaded cars that are earning far too much in revenue proportionate to total railroad business."

Ford's attack on old rate structures started about two and a half years ago—and the new structure, devised by Fomoco, was negotiated with a small group of eastern roads (Pennsylvania, Wabash and Detroit, Toledo & Ironton). Other carriers, however, soon embraced the program and the first new rates went into effect in July 1962.

By early this year, Mr. Knutson notes, "all rates—with some modifications and extensions—were in effect to cover all rate territories except the Transcontinental Freight Bureau. But they now have approved a parallel type of rate, and concurrence is pending in the eastern railroads' traffic association. We expect that they will concur soon, which means we will have a uniform basis of auto-parts rates all over the country."

On the new scale of rates, Ford notes, "disproportionately high and low rates" are replaced by "a relatively smooth line increasing in dollars-per-hundredweight with distance from the origin. This is in keeping with the basic transportation principle that charges should reflect weight moved over a distance."

Under former rates and rules, the company could "match light-weight cars with relatively heavy cars to obtain the same rate in dollars-per-hundred. Under present rates and rules, each car must stand on its own feet, and while Ford pays somewhat less for the moderately heavy car, the charges on the light car more appropriately reflect the earnings the railroad should expect under these conditions."

Once the general pattern of rates was set, Ford started work on equipment design.

● **Market pattern changes.** Now, and in past years, Ford (and other manufacturers) has relied heavily on equipment fitted with interior load-stowing devices—gates, swingboards, door-bars, cross-bars, racks, belt rails and other damage-preventing equipment. Years ago, this was fine. But marketing of automobiles has changed. When, a few years ago, Ford made a Ford car and a Mercury and a Lincoln, everything went fine. But then auto lines began to be fragmented. Ford started making its Econoline, its Meteor, its Falcon, its Comet.

The number of coded auto-parts cars, Mr. Knutson recalls, was doubled—and "Each time we added a new code to fit a Comet hood or a Falcon quarter-panel, we made unique and specialized another part of this car fleet and made it less flexible to use."

In determining transportation needs, Ford's Traffic Department has to rely on public acceptance of the company's various models. To protect itself, the department often had to go on the high side—and this produced something less than optimum results. If one model slumped in sales, cars equipped to handle parts for that model sat idle. If another model surpassed sales estimates, other specialized parts cars were in short supply and problems cropped up.

● **Traffic problems.** "We were always in a position," Mr. Knutson comments, "where we had an adequate number of cars on hand—but often emergency measures were necessary to enable us to meet our particular production schedules of the moment. This meant the railroads were not getting utility from their cars—and we were creating traffic problems unnecessarily."

Ford's first move was to start thinking of the box car as a general-purpose vehicle—not as a hybrid container and transportation vehicle. The box car, as Ford saw it, was "really a big egg crate—whereas we had made it into a specialized container, to a point where it was no longer a box car."

Ford studied the moves of the coded cars assigned to parts traffic. It also

How the King-Size Auto-Parts Cars Compare:

	Santa Fe Pullman-Standard	*Wabash ACF*	*Southern Pacific Whitehead & Kales*
Length	76 ft, 7 in.	84 ft, 4½ in.	86 ft, 5 in.
Height	13 ft, 6 in.	12 ft, 9 in.	12 ft, 8 in.
Width	9 ft, 2 in.	9 ft, 2 in.	9 ft, 2 in.
Type of doors	8-door, full car side, overlap	4-door, center-opening plug type	4 plug doors per side, 20-ft door opening
Type of cushioning	30-in. travel P-S hydraulic cushion	20-in. travel Bendix hydraulic cushion	20-in. Hydra-Cushion device
Load capacity	126,000 lb	126,000 lb	98,000 lb
Cubic capacity	9,513 cu ft	9,936 cu ft	10,000 cu ft

Watching Washington, which usually appears in this space, is on page 32 of this issue.

CONTAINERIZED-LOADING will streamline movement of parts from factory to assembly line.

looked at movements of the new auto-rack cars which could handle anything from Falcons to full-size Fords to luxury Lincoln Continentals. The answer, for the parts business, came quickly. Parts cars a few years ago, were making 10 to about 22 trips per model year. But the multilevel cars, Mr. Knutson saw, "were turning as many as 30 times a year. This demonstrates that if you have a gadget that will take any kind of package for which it's designed, the turnaround is greatly increased. The multilevels can load any kind of vehicle we manufacture—so we can keep them working. And we're sure we can do the same with the new auto-parts fleet we have in mind."

● **New cars needed.** If containerization were the only object, Ford could perhaps have switched over, using the existing auto-parts car fleet. But the auto-maker is also looking for maximum loading, maximum utilization of equipment—and rack-loading of existing cars, figures showed, would produce an actual loss because existing cars don't have the loading capabilities Ford required.

Containerized loading of the present fleet, Ford found, "doesn't accomplish savings for us, so obviously, why do it? At the same time, it's of no particular advantage to the railroads. All we gain is, perhaps, better car utilization. So then we go to this question: What is the biggest 'container' that can be moved on the railroads to all the points we must serve?"

Ford's first attempt—the "container" built by P-S—fell a bit short. Its dimensions made it practical for shipments to only 14 of the 16 plants where Ford parts must go. But the next prototype—the car which ACF will outshop in June—will fit existing clearances. It's longer and lower. It also will have what Ford considers a wiser arrangement of door openings—double, center-opening plug doors.

● **Pick the best.** From the three cars in test stages—the P-S unit, the car built by W&K and SP and the new ACF car—Ford plans to take the best features for a design that will become standard (at least for one of the Big Three).

Meanwhile, the 60-foot, high-density-parts car promises to become standard without a long test period. According to Ford, 25 railroads have agreed to supply cars to a uniform design—Santa Fe; Detroit, Toledo & Ironton; Wabash; Norfolk & Western; Green Bay & Western; Missouri Pacific; Union Pacific; Western Pacific; Frisco; Louisville & Nashville; Chicago & North Western; Rio Grande; Chesapeake & Ohio; Rock Island; Milwaukee; Southern; Southern Pacific; Pennsylvania; New York Central: Erie-Lackawanna; Chicago & Eastern Illinois; Cotton Belt; Texas & Pacific; Burlington; and Baltimore & Ohio.

2,000 cars for Ford

This car program, as Ford sees it, "is well under way. We'll have many of this type car progressively in service for the '64 model year—and we'll have more for the 1965 and '66 models."

● **Deliveries start soon.** How many cars? Ford itself thinks in terms of 2,000 60-foot cars, to replace about 2,800 smaller cars now in service—with the first of the group scheduled for delivery this month.

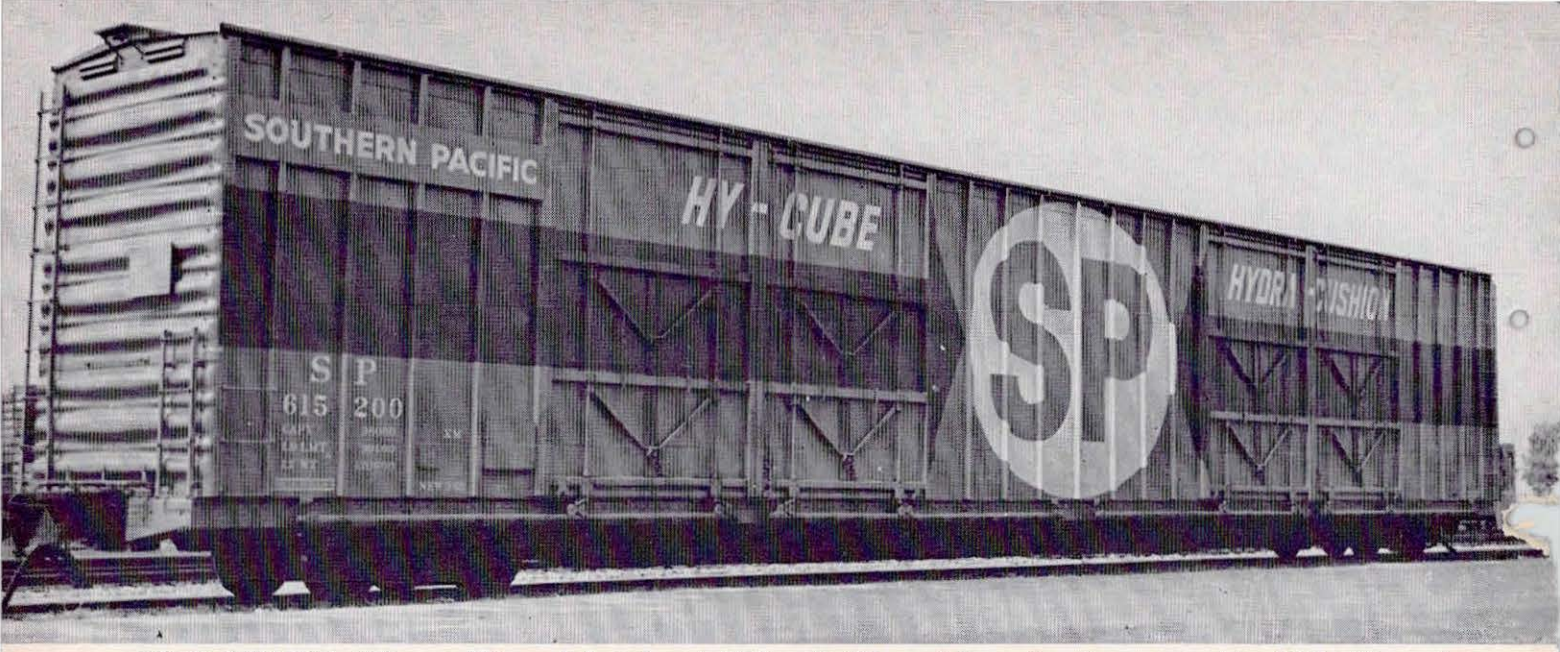
There's no immediate, automatic gain for railroads through purchase of these new king-size cars (and, in fact, some carrier rate men are less than enthusiastic about the scale which will apply to the cars—because, they contend, auto makers would still benefit if the rates were pegged higher and the business would at the same time be making a bigger contribution to rail net).

Ford agrees that the parts traffic (unlike the finished-auto traffic) has traditionally moved by rail, and there's no potential for spectacular recapture of business such as the multilevel racks produced. But, the auto manufacturer is quick to point out, railroads can look forward to benefits in several significant areas—a reduction in paperwork, lower maintenance costs for auto-parts cars, release of existing 40- and 50-foot cars for other service, reduced operating costs. (And with car shortages continuing, observers note, a freeing-up of hundreds of high-class box cars could greatly strengthen the railroads' hand in merchandise-traffic competition.)

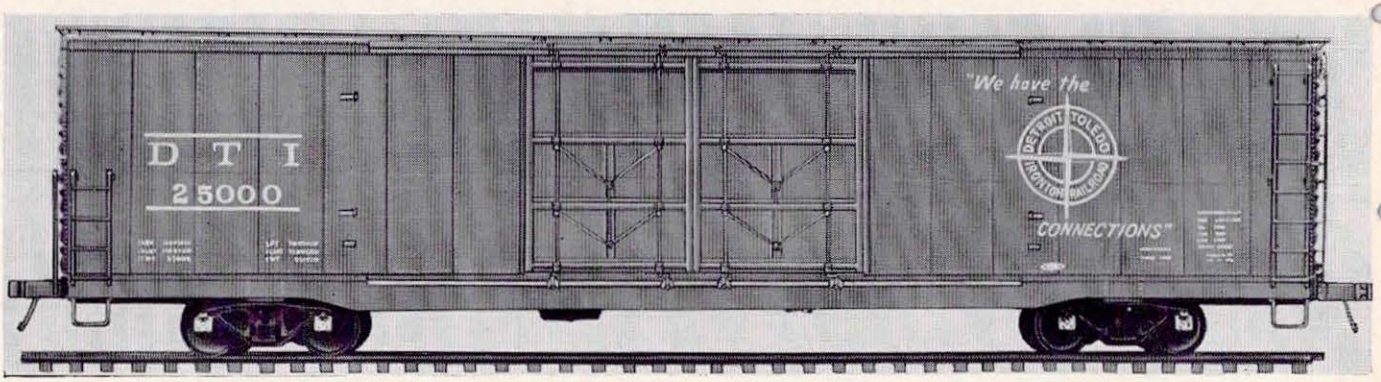
● **Benefits for Ford.** The automobile company, Mr. Knutson notes, "anticipates highly desirable results" from the new car program—especially in the areas of materials handling, production control and paperwork simplification.

Both Ford and the railroads will contribute to the equipping of the 60- and 85-foot cars. The cost will be high—Ford itself will spend several million dollars for containers. But, as Mr. Knutson points out, the railroads today have an investment of about $36.3 million in interior dunnage in parts cars supplied to Ford alone.

Ford expects to have more than 600 new 60-foot cars in service by the end of the year—and deliveries of the 85-foot cars will probably begin late this year or early in 1964, barring unexpected hitches in development of a standard design. As the new fleet builds



DOOR DESIGNS differ on SP car (above) and ACF unit. SP used four plug doors per side, ACF will use two.



PLUG-DOORS on 60-foot cars, as on 85-foot units, will permit maximum use of car capacity.

up, cars in the existing pool will be released—Ford anticipates retaining only about 3,000 50-foot cars in the present 12,000-car fleet. They'll be used for miscellaneous low-volume movements for which the new units would not be suited.

● **Tests planned.** Extensive tests of the ACF 85-foot car are scheduled to be conducted this month (the prototype will be in the carbuilder's test center at St. Charles, Mo., and will be released for road test when test-center work is done). Meanwhile, Southern Pacific and General Motors will be going through a similar testing operation with the SP Hy-Cube car. The first big car—the Pullman-Standard unit—has already gone through its test period on short and long hauls.

Concurrent with car-design work, Ford's material handling engineers have been progressing a container-design program to a point where a basic rack and accessories to hold most stampings have been developed. Four basic objectives have been met:

● Design of a rack suitable for shipping all stampings with changes to be accomplished through use of accessories and-or dunnage.

● Provision of dunnage and accessories designed for maximum flexibility and damage prevention, taking into account mandatory requirements for unique dunnage for some parts.

● Development of a program which makes continued use of the large number of standardized containers now in use at Ford plants.

● Design of a unit that can be applied to potential automation situations.

With the two programs moving forward together, Ford quickly found its potential shipping methods approaching the actual efficiency of its manufacturing processes—because, while the company had been making a continuing effort to provide manufacturing facilities with flexibility to accommodate varying car lines, shipping programs hadn't achieved a similar flexibility with existing equipment.

Shipping flexibility

Basic to Ford thinking was the theory that "containerization in high-cube cars represents an optimum unit load which is the basic premise of sound materials-handling engineering." And, with the exception of incompatible parts requiring unique dunnage, the company saw containerization as the solution to the problem of providing shipping flexibility.

● **Parts list doubled.** Improvement, as the auto-maker saw it, was essential if current manufacturing and marketing patterns were to be served by adequate transportation — because, where Ford shipped about 15,000 separate types of parts in 1955, present production demands shipment of about 39,000 distinct items for the many models built by the company.

This was the heart of the problem—and, as the number of separate parts items grew, Mr. Knutson recalls, "we were just creating a more and more unique 'container' out of our box-car fleet. This is the problem that ruined our former system of shipping."

The new system, by contrast, will be a model of simplicity, he believes: Just two types of freight car—one for high-density loading, one for low-density loading—and a means of unitizing in which parts can be containerized when they come off the presses, stored, shipped and delivered to the assembly line without costly, time-consuming, damage-producing re-handling.

West Coast Transit Plan Gets Legal Green Light

● **San Francisco progress.** The Bay Area Rapid Transit District is shifting into forward gear on final design planning of the proposed 75-mile high-speed rail network after winning a legal test in Superior Court.

A call has gone out to professional engineering and architectural societies in the Bay Area to assist BARTD in recruiting qualified firms and individuals for sub-contract design work on the three-county project. Full-scale design engineering work is scheduled to be under way by July 1.

Major design work on the system was stopped last December when four taxpayers questioned the legality of the $792 million bond issue approved by voters in November to finance the three-county transit network. Judge Martin E. Rothenberg has upheld the bond issue, ruling that the voters were not misled, as charged by the plaintiffs.

BARTD General Manager John M. Peirce called the decision "complete, unequivocal vindication of the district's program, operations, directors, staff officials and engineering consultants."

A spokesman for the taxpayers' group said the decision upholding the bond issue would be appealed to the State Supreme Court. Such an appeal could postpone the sale of the first bonds, Mr. Peirce conceded, but he said that the district has received assurances that it can secure temporary financing so that design engineering can proceed. Actual construction of the system is not expected to begin until the second half of 1964.

● **Pittsburgh rights-of-way.** Despite reservations of some of the master-planners, railroads — or, more specifically, rail rights-of-way—may play a big role in mass transportation development in Pittsburgh.

Planners tend to look scornfully at the rail lines radiating from Pittsburgh's downtown—because, they contend, the railroads don't tap the areas of greatest population growth and, presumably, the areas with the greatest potential for transit operations.

But there are indications the Port Authority of Allegheny County doesn't share the view. Judge Loran Lewis, chairman of the authority, noted recently that existence of rail rights-of-way creates "an ideal situation for development of rapid transit." Pittsburgh's first task is to acquire and coordinate existing bus and street-car operations. Then, said Judge Lewis, the next move to try to make is to develop a rapid-transit system.

Meanwhile, John C. Kohl, assistant administrator (transportation) of the Housing & Home Finance Agency, hailed the authority for making a "significant step" toward creation of a coordinated system on a regional basis. And he also put in a strong plug for use of rail lines where possible.

He told a group of Allegheny County government and civic leaders that economy demands careful staging of improvement efforts with particular attention paid to the potential of existing facilities. First, he pointed out, urban transportation planners should attempt to coordinate existing services. Then they should look at the resources available in little-used or abandoned facilities. Finally, there comes the opportunity—an expensive one—for creating totally new facilities.

Pittsburgh, Mr. Kohl declared, appears to have "a real opportunity to demonstrate conservation of rail lines. . . . The area could perhaps achieve real economies by taking advantage of what it already has."

Judge Lewis and Mr. Kohl spoke before a jointly sponsored Railway Progress Institute—Port Authority luncheon, held in conjunction with a meeting of RPI's passenger traffic committee.

● **New York proposal.** The former chief of the New York City Transit Authority, Col. Sidney H. Bingham, now a transportation consultant, has come up with a plan for an integrated system of commuter and long-line railroad services for the Greater New York area.

A key feature would be the construction of a tunnel under Park Avenue connecting some of the lower-level tracks at Grand Central with Pennsylvania-Long Island tracks under 32d and 33d Streets. Such a link would make possible the integration of the four commuter lines serving the city—the Pennsylvania, New York Central, Long Island and New Haven, Col. Bingham says.

In addition to providing a "single continuous transportation system" for commuters from New York, Connecticut and New Jersey, the plan could "offer substantial economic and time-saving advantages in Boston to Washington, D.C., service," he said. Col. Bingham estimates construction costs of the project at $138 million, equipment costs at $148.2 million, and possible railroad easements at $345 million, if the system is to be operated by an independent company. Total cost: $631.2 million.

● **Richardson Dilworth,** former mayor of Philadelphia, has been appointed chairman of a Washington-Boston transportation study, according to an announcement by Secretary of Commerce Luther H. Hodges.

Purpose of the study is to evaluate transportation requirements in the northeastern corridor and to recommend a coordinated program of development of rail, road and air facilities. By 1980, population of the area is expected to increase from the present 40 million to 50 million people.

● **Rails in Ford's future?** The Ford Motor Company has unveiled a model of a turbo-prop vehicle which would slide on a film on air over special rails at speeds from 200 to 500 mph. The cigar-shaped Aeolus, designed for inter-city travel, slides on Levapads, steel felt through which air is forced under pressure. Ford indicates further work on the project would be up to some public authority or transportation group. "It's too big for us," a spokesman said.

Atlanta Still Pushes For a Transit System

A full-scale public relations program is under way to convince Georgia voters of the city's urgent need for an independent rapid transit system to cope with the ever-growing traffic.

Atlanta's rapid transit proposal was defeated in a state-wide referendum recently. "Downstate Georgians didn't know what it was all about, so they voted against it," a state senator explained. "The next time it's voted on, in 1964, it will be handled differently."

Already a full-scale public relations program has been launched, headed by ex-Gov. Ernest Vandiver. The need is great—and so apparent to Atlantans—that they are sparing no pains to insure that they will have a rapid transit system operating by Jan. 1, 1971. This initial stage will comprise 21.5 miles. Completion of a system of 66 miles is scheduled for 1980.

● **Downtown congestion.** The need for rapid transit is glaringly apparent to anyone driving in Atlanta during the rush hours. An elaborate expressway system built in the last decade merely dumps more autos into the downtown area, where problems peculiar to Atlanta are encountered. As the nation's second highest major city, Atlanta is quite hilly, even in its downtown section. Moreover, its street layout varies from the basic gridiron street patterns of most American cities. The heart of downtown, for example, is a great-grandfather of a traffic headache called "Five Points," into which streets seem to debouch from all directions. At many other places in the core area, streets meeting at sharp and unusual angles add further to traffic congestion.

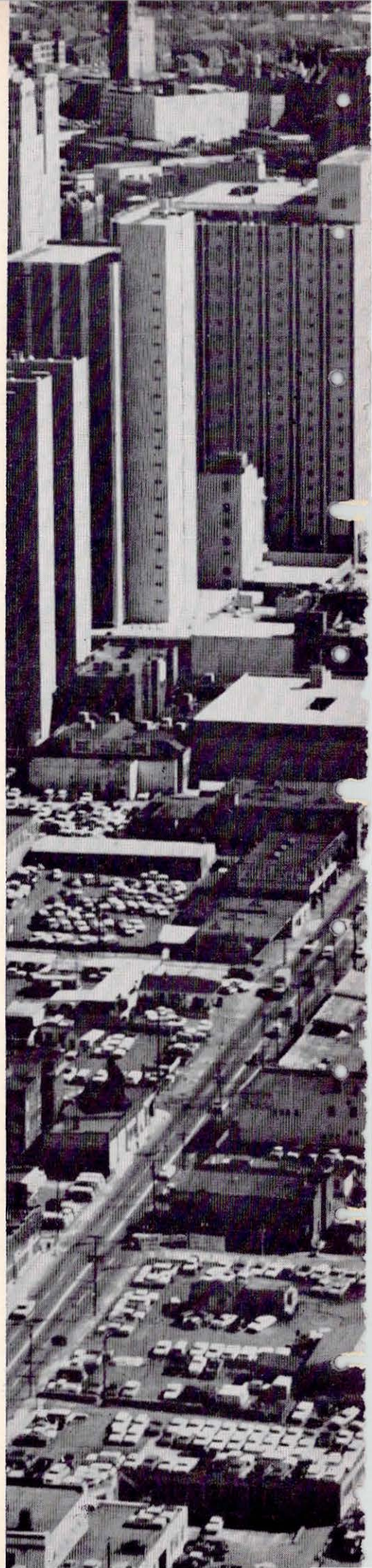
Much of Fulton county and part of DeKalb county are in the Atlanta city limits. Many Atlanta suburbs are also located in Clayton, Cobb and Gwinnett counties, thus making any rapid transit study a five-county effort. A number of possibilities have been explored, including expansion of bus lines, the building of overhead systems, and the handling of commuters and shoppers on existing railroad lines. Although there are 13 main lines of seven companies radiating from Atlanta, commuter service as such has never been offered by the railroads.

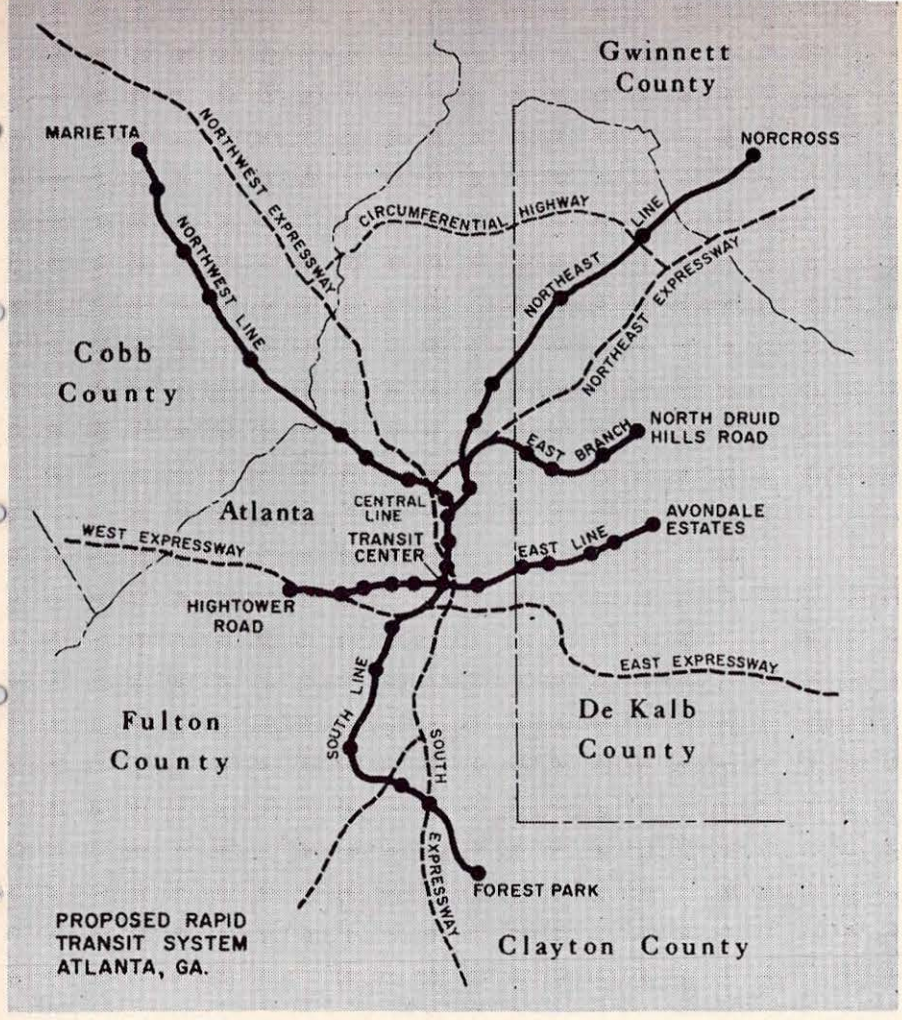
Eventually, all of these transit proposals were discarded for one reason or another. What was decided upon—and what Atlantans are determined to have in operation by 1971 at the latest—is an independent rapid transit system using streamlined, electrically-driven equipment capable of averaging 45 mph. It's planned to use the latest automatic safety controls on the system and it is believed that electronic computer technology will be sufficiently advanced to permit the safe operation of trains at 90 second intervals during rush hours.

● **Adjacent to rail lines.** To the maximum extent, rapid transit tracks will be at grade or on structures alongside existing railroad tracks. Although numerous problems are posed by this method, this approach was deemed most feasible. By using subways and aerial structures in certain areas, many additional problems can be solved. However, some streets and several railroad sidings will have to be closed and some new sidings and lead tracks built. Of the double-tracked 66 miles, 46 will be at grade, 17 on aerial structures, and 3 miles of subway. Of this, 49 miles are to be on railroad right of way, or immediately adjacent.

There will be eastern, western and southern sections. Where the three lines meet downtown, a Transit Center will be established. From this point, a three-mile central segment will extend northward, dividing into a northeastern section to Norcross and a northwestern section to Marietta. An eastern branch will take off from the northeastern section. The western section, between the Transit Center and Hightower Road, will be 4.5 miles long. The eastern section, between the Transit Center and Avondale Estates east of Decatur, will be 7.4 miles long. The southern section, extending from the Transit Center to Forest Park, will cover 12.9 miles. From the Transit Center via the central section, and then over the northeastern section to Norcross, is 18.2 miles; the east branch of this section will extend to North Druid Hills Road, 10.3 miles from the Transit Center. The northwestern section to Marietta will be 18.3 miles. There will be 42 stations.

● **Two types of stations.** All stations on the Central Line will be designated





"delivery" stations, with most of the traffic in the morning and evening composed of people who will be walking between the stations and their places of business. All other stations will be designated "pick-up" stations and will be supplied with parking facilities accommodating from 200 to 1,700 cars. Parking will be free, except for preferential locations which will be metered.

In explaining what will be done when the rapid transit system at grade conflicts with railway sidings, the plan states: "The solution depends upon the nature and frequency of occurrence of the sidings and the volume of traffic handled by them. At some points, sidings can be closed; at others, siding entrances to industrial areas can be consolidated and the rapid transit tracks carried overhead on aerial structures. In still other cases, where large numbers of sidings must be maintained in their present alignment, considerable lengths of aerial structure are necessary. Where railway junctions exist, it is also necessary that the rapid transit tracks be carried overhead."

● **Construction schedule.** By Jan. 1, 1970, 21.5 miles of the system are expected to be in operation. At present prices, cost for this much of the project is estimated at $131,509,000. The system will include, at that time, a complete Central Line, the South Line as far as the airport, the Northeast Line for 10.4 miles, and 4.7 miles of the Northwest Line. The East and West Lines and the East branch will be incomplete. It is planned to use 72-passenger trailing cars and 70-passenger power cars. For the 1970 system, 51 cars will be required, at a capital cost of $9,570,000.

By Jan. 1, 1975, the complete East and West Lines will be in operation, as well as an extension of the Northwest Line to 7.2 miles. The South Line and the Northeast Line will not have been extended any further and the East branch will not be operative. This will raise the total length to 36 miles, and total cost to $204,380,000. For this system, 96 cars will be needed, including the 51 purchased initially, and the total equipment cost will have risen to $17,220,000.

By Jan. 1, 1980, the entire 66-mile rapid transit system is expected to be in operation, requiring 186 cars, or a total expenditure for equipment up to that time of $32,348,000, not counting any necessary replacements. The total cost of the entire completed project will be $291,725,000.

The Central Line is almost entirely a subway and does not impinge upon railway operations, except that the Tourist Center station at its south end will be partly located within the "gulch," the valley through which the railways enter downtown Atlanta. The South Line will cross the gulch on an aerial structure, then parallel the Central of Georgia and the Atlanta & West Point, until the latter line turns off, after which the rapid transit line will run along the CG for the remainder of its length.

The Northwest Line crosses several railways on an aerial structure, then comes down to grade along the Seaboard and continues on this right-of-way to the Chattahoochee river. After crossing this river, it parallels the Louisville & Nashville for most of the distance to Marietta. The location of a rapid transit yard and maintenance shops opposite the Lockheed-Georgia Co. will necessitate realignment of the L & N main line there.

The Northeast Line follows the Southern for almost its entire length to Norcross and the East branch of this line will follow the Seaboard. The West Line, after crossing numerous railroads and tunneling under an Atlantic Coast Line yard, follows the ACL, while the East Line follows the Seaboard and later the Georgia through Decatur.

● **Transit agency proposed.** Many forms of ownership were considered. Present thinking is to have the State of Georgia set up a transit agency with regional jurisdiction and responsibility, but which would not involve the state tax system or debt structure. Potential traffic surveys have shown that the system would soon become self-supporting. Initially, since only Fulton and DeKalb counties and the City of Atlanta would have the system through the 1970s, it is felt that they should bear the tax burden. However, the other three counties affected would be members of the transit authority and have some voice in its affairs, since eventually, they would be strongly affected by the system. They would begin to share in the tax burden once the rails reached their borders.

What was turned down by the voters of the State as a whole last year was not a proposal for a bond issue or additional taxes. It was simply an enabling act that would permit an amendment of the state constitution to permit taxing counties locally for an enterprise of this sort. Most authorities in Atlanta are sure that the referendum was defeated because of the lack of a proper informational program, particularly in counties distant from Atlanta. The principals behind the Metropolitan Atlanta Transit Study Commission and the Atlanta Region Metropolitan Planning Commission are determined that this will not be the case next time. They feel certain that their plans will be realized.

JFK Backs Transit Plan for Washington

The President last week asked quick Congressional approval for a $793-million, 10-year program designed to relieve transit congestion in the nation's capital and surrounding territory.

Washington highway lobbyists claim they are being railroaded. Behind these plaintive cries was a request by President Kennedy last week for quick Congressional approval of a $793-million rail transit system to relieve growing transit congestion in the nation's capital and surrounding Maryland and Virginia counties.

In his message to Congress, President Kennedy called an improved transportation system for the Washington metropolitan area "essential" and noted it "must include a major rapid transit system."

"The alternatives," said Mr. Kennedy, "would be steadily worsening congestion with all that congestion means in losses of time and money, or an enlarged highway and freeway program entailing additional expense, major disruption of persons and businesses, and substantial impairment of the appearance and attractiveness of the city."

- **10-year program.** The Washington Transit Development Program, which was drawn up by the National Capital Transportation Agency and which received White House approval last week, involves a 10-year program of construction of a regional rail transit system, establishment of one commuter railroad line, and the provision of express bus service operating on freeways and expressways.

Downtown subway planned

Heart of the proposed 83-mile rail transit system, which would be served by 72 stations, would be a downtown subway connecting Washington's Union Station with principal Federal and commercial employment centers. NCTA says the 19-mile underground system would place 77 out of every 100 riders within five minutes walking distance of their offices. Seven radial rail transit lines and one commuter rail line would be extended into outlying areas of the District of Columbia and into nearby Maryland and Virginia counties to connect Washington with Bethesda; Columbia Heights-Petworth; Rockville-Silver Spring; Route 95-Queen's Chapel; Bowie-Cheverly; Henson Creek-Anacostia; Springfield-Alexandria; and Route 66-Rosslyn.

Two of the lines (Rockville-Silver Spring and Springfield-Alexandria) would utilize existing railroad rights-of-way. Three others (Route 95-Queen's Chapel, Henson Creek-Anacostia, and Route 66-Rosslyn) would use median strips of proposed highways. The commuter railroad line (Bowie-Cheverly) would utilize a 15-mile stretch of the Pennsylvania Railroad.

- **Car needs listed.** NCTA estimates it will need 693 rapid transit cars and 53 rail commuter cars for the all-electric operation. While equipment design has not been finalized, preliminary information indicates the rapid transit cars will incorporate the latest engineering features of equipment recently introduced in Chicago and Toronto. The air-conditioned cars would be 75 feet long, 10 feet high, seat 82 passengers and capable of operating at speeds up to 75 mph.

If construction begins next year, as NCTA hopes, operations on a limited scale would begin in 1969. The entire 83-mile system is scheduled for completion in 1973.

- **Cars would cost $112 million.** Of the $793-million, which NCTA estimates the program will cost, approximately $681 million would be spent on construction and $112 million on equipment—$98.6 million for the 693 rapid transit cars and $13.3 million for the rail commuter cars.

Under the plan which has been sent to Congress the Washington transit system would be financed by:

- $180 million in federal, District of Columbia and local Virginia and Maryland government grants, with the federal government putting up two-thirds ($120 million) and the local governments one third ($60 million). This formula is substantially in accordance with that proposed in the Administration's bill to provide urban mass transportation on a national basis, which is now before Congress.
- $613 million in government-guaranteed bonds.

NCTA estimates that it can repay all loans from fares within 36 years. "Even under adverse circumstances," Mr. Kennedy said last week, "it seems reasonable to conclude that the borrowing could be repaid within a period of 50 years."

Actually, no bond financing will be needed until 1966, and the White House has no intention of pushing for Congressional approval of the issue this year. If Congress passes enabling legislation, the White House will then ask for a $20.5-million federal grant which NCTA says it needs to begin construction in fiscal 1964.

Difficulty in Congress

Behind Mr. Kennedy's reluctance to push harder for the Washington transit plan this year is the difficulty he is having in Congress with his Urban Mass Transportation Act. The watered-down version which squeaked through the Senate in April by a 52-41 vote provides for $375 million for federal matching grants to public agencies whose mass transit plans meet specified requirements, and government guarantees of up to $375 million in revenue bonds for transit projects.

- **Rougher treatment ahead.** The bill is expected to get even rougher treatment in the House where it is now bottled up in the Rules Committee. Rep. Howard Smith (D-Va.), chairman of the Rules Committee, has indicated that hearings will be held on the measure this year, but as of last week none had been scheduled.

The real battle for the Washington transit plan, however, will be joined when Congress begins hearings on the White House bill authorizing the Transit Development Program. The NCTA plan is already under fire from local governing bodies in Maryland and Virginia and local highway interests are feeding the flames with full-page newspaper advertisements decrying the "diversion" of funds to rail transit.

Actually, the original NCTA plan recommends the expenditure of $826 million for freeways in the Washington metropolitan area between now and 1980, which would be financed under the federal highway program. NCTA has pointed out that the rail transit program will make additional freeway expenditures unnecessary and President Kennedy, in general, is supporting this position, at least for the present.

NY Car Need Called 'Critical' in Report

The Tri-State Transportation Committee says New York area railroads badly need new commuter cars to replace overage equipment. The bill for the initial program: a hefty $260 million.

Overage passenger cars now shuttling commuters between home and work in the New York-Connecticut-New Jersey area are in critical need of replacement —to the tune of $260 million—the governors of the three states have been told.

The Tri-State Transportation Committee, established by the governors in 1961 to study the serious transportation problems in the three-state metropolitan region, released its findings in a "Report on the Status of Railroad Suburban Equipment." It is part of a study being made of the feasibility of standardizing this equipment or using equipment of different design on a line.

The $260 million figure is based on replacement of all existing overage equipment by 1968. The committee says that an additional $58 million would be needed in the five years after that to replace cars that would become overage during that period.

● **Not final evaluation.** "These cost estimates must not be considered either as recommendations of the Committee or as a final evaluation," the report states, "as the mass transportation studies yet to be completed by the Committee may modify the assumption that all overage equipment needs to be replaced in equal number or kind."

The six major carriers in the tri-state area — the New York Central, Erie-Lackawanna, Pennsylvania, Long Island, Jersey Central and the New Haven—transport more than 99% of the rail suburban passengers, the committee found.

Of the 3,079 cars with a combined capacity of 279,282 seats used by these lines on their suburban services, 2,016 are on the New York-Connecticut lines and 1,063 on the New Jersey lines. The committee reported that 64% of the cars operated by New York-Connecticut railroads, and 99% of those being used by New Jersey lines, were more than 30 years old, and thus considered overage.

Categorizing the cars in use by type and age, the report lists the cars classified as "standard" as making up the oldest age group, with 84% of the cars over 30 years of age. About 69% of the New York-Connecticut lines' so-called standard cars and 100% of those of the New Jersey carriers are considered overage. Of the multiple-unit cars, 71% of the total is over 30 years old. The New York-Connecticut lines have 62% of their MU's in this age group, and the New Jersey lines 100%. All 21 RDC's are less than 15 years old.

All the cars in the 0-5 year age bracket on the New York Railroads have been acquired under the $100 million New York State Commuter Car program of state-guaranteed financing, the committee said. The New Jersey Division of Rail Transportation has recommended a similar program for that state.

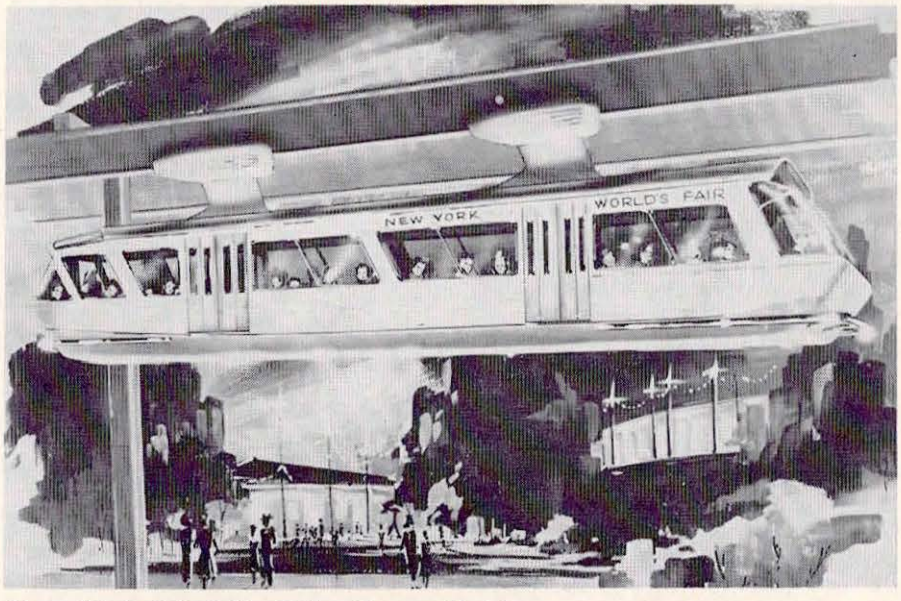
While Connecticut does not have a car-purchasing program, it has given the New Haven tax benefits and other assistance, the Committee reported. Last month the New Haven was offered a lease arrangement by the Port of New York Authority that would have provided the railroad with 100 new commuter cars and the rehabilitation of 100 older cars. The trustees of the bankrupt line rejected the proposal, terming it "defective" in that it avoided the issue of providing public support of commuter deficits incurred by the road. The New Haven estimated it needs $5.5 million annually to off-set New York area commuter losses (RA, May 20, p. 24).

● **Newer transit cars.** By way of contrast, the committee noted that New York area rapid transit lines, with a total of 6,651 cars, had only 25% of their cars in the over-30 age bracket.

With regard to locomotives, the report showed 366 locomotives in suburban line-haul service, of which 75 are electric, 231 diesel-electric, and 60 are dual-powered electric/diesel-electric. Of the electric locomotives, 28% are over 30 years old. About 8% of the diesel-electrics — which, the committee says, have only half the economic life of the electrics—are over 15 years old. All 60 of the dual-powered locomotives are six years old or less.

The Committee noted that the evolution of railroad suburban passenger equipment has been towards a larger car with more seating capacity. Cars most recently purchased have 130 seats, while older cars have 78 seats.

"No other major changes in design have been accepted in the region, although lighter structural weight, air-conditioning and newer electrical components have been introduced," the Committee continued.



New York World's Fair Monorail Line

An artist's conception of one of the 40-foot passenger monorail cars that will carry visitors around the 1964-65 New York World's Fair. The 8,400-foot double-loop monorail will be built and operated by American Crane & Hoist Corp. of Los Angeles. Work on the system will be started at the Flushing Meadows, N.Y., site later this month.

Prototype train is shown speeding over a bridge on the 23-mile test section of the Japanese National Railways'

Japan's Tokaido Line: A Report

The new 320-mile line being built between Tokyo and Osaka is called a super-railroad 'in every sense of the term.' It features the most modern engineering techniques and materials.

Super-railroading, Japanese style, got a long, hard look from U.S. railroad officers during a recent study-week program, arranged by the State Department at the request of the Japanese National Railways and the UN Economic Commission for Asia and the Far East. Among the U.S. representatives who toured JNR's new Tokaido line was the AAR's director of engineering research, G. M. Magee—and this is his in-depth report on technical design and construction features of the 320-mile, high-speed Tokyo-Osaka railroad. Like Curtis D. Buford, AAR vice president—operations and maintenance (RA, May 20, p. 16), Mr. Magee found the Tokaido line an impressive engineering accomplishment.

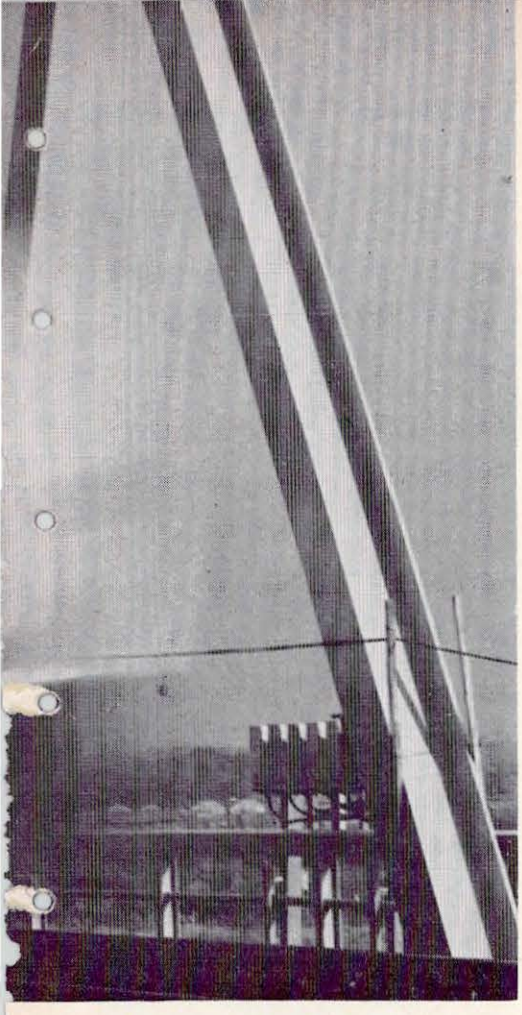
By G. M. Magee

The new Tokaido line (NTL) is a double-track, standard-gauge, electrified "super-railroad" in every sense of the term. It is designed to permit a maximum operating speed of 125 mph. It will be used for high-speed passenger service and high-speed containerized-freight service.

Generally, the new line parallels an existing Tokaido line—a double-track (four-track at larger cities), electrified railroad built to 3-foot, 6-inch gauge. Once the new line is completed, pressures on the existing facility will be eased; JNR will retain it to handle local passenger traffic and general freight service.

● **Getting started.** The Tokaido-line study-week program opened at 10 a.m. Thursday, April 11, in the International Conference Hall of the Tokyo Chamber of Commerce and Industry Building. The program for the morning consisted of a series of addresses by functionaries of the Japanese government, the Japanese National Railways and ECAFE. The afternoon was given over to explanations of the engineering and operating features of the new line by various Tokaido-line officers, and was concluded by a showing of an interesting and informative 25-minute color, sound film of the new Tokaido line—including the planning, land construction phases and operation of a prototype train at speeds up to 160 miles per hour on the 23-mile section of the line near Tokyo that had been rushed to early completion for test purposes.

Friday was devoted to a visit to the recently completed Railway Technical Research Institute located at Kunitachi, an outlying area of Tokyo. The RTRI has 23 buildings surrounded by a testing track in the form of an oval. The staff includes 907 persons, of whom 65 are doctors of engineering, 12 are doctors



new high-speed Tokaido line.

in Depth

of science, one is a doctor of agriculture, 325 are university trained and 181 are technical-college trained. The 1962 research budget was 1,189 million yen, equivalent to $3.3 million.

Most of the NTL research on track, structures, equipment, signaling, automatic train control and communications was conducted at the RTRI, and the ECAFE group was shown many interesting types of test equipment used and being used for continued studies.

● **Station at Tokyo.** On Saturday morning, an inspection was made of the new station facilities being provided for the NTL at its Tokyo terminus. Approximately 670,000 passengers are handled daily at the existing Tokyo station, located in the business center where about 400,000 passengers transfer to and from three rapid-transit lines that meet at this point. The existing station has seven elevated platforms, each with a track on each side, or 14 tracks to handle the passenger and commuter traffic. Two additional platforms (four tracks) are being added for the NTL, and provision will be made for adding still a third new platform.

Station facilities are being provided in the space under the new platforms. The arrangement thus provides for passengers using the NTL to have the same access to rapid-transit service throughout the city, yet to avoid as much as possible mingling with the commuter traffic from the present lines. At the end of the new platforms, a five-story building with two additional stories underground is being constructed for the central dispatching office.

Leaving Tokyo, the NTL will be elevated for several miles over an existing double-track line to save right-of-way costs. An inspection was made at one location where this work was under way to show the type of concrete-enclosed steel supporting structure for the NTL.

● **Test run at 125 mph.** On Monday morning, April 15, the study group was taken by special train on the old Tokaido line to Kamonomiya and by bus to nearby test-center facilities near one end of the 23-mile test section. This section was completed in June 1962 to provide a means of making test runs to confirm the construction and maintenance requirements of the track structure, the riding characteristics of a prototype four-unit test train, the internal pressure comfort while going through or passing in tunnels, performance of the ATC equipment, and training of operating personnel.

After a brief view of the track construction and exterior of the prototype train, the group boarded the train and a demonstration run was made over the test section. A maximum speed of 125 miles per hour was quickly attained and maintained. The riding qualities were excellent. Because of the care given to line, surface and cross-level of the track and the design of the trucks, the ride was remarkably smooth at this speed. The only discomfort experienced occurred when the train was passing through tunnels, where the change in pressure on the ear drums was quite noticeable and to some extent uncomfortable. This problem is receiving intensive study and no doubt will be satisfactorily solved, although it may require air sealing of the cars and perhaps even some pressurizing of the interiors.

An opportunity was afforded to observe the interior of the prototype train and the remarkable instrumentation that was provided to study its operating performance. The train, a prototype of the equipment that will be operated in passenger service on the NTL, consists of four cars, all powered. The uncoupled ends of the two end cars are identical and streamlined so the train can be operated in either direction. Wind-tunnel tests were used to develop the best shape for the train ends and car cross-section.

● **The track structure.** At the end of the outgoing leg of the trip, the group was given an opportunity to observe the track structure. Ballast is a crushed and graded hard rock of good quality. The size is larger than now generally used in the United States, varying from 0.75 to 2.5 inches according to specifications, but on the ground appearing to run as large as 4 inches and as small as ⅛ inch. A depth of 12 inches is laid under the ties, generally on top of an 8-inch depth of sub-ballast. The cribs are left open at the center of the track, the bottom of the ties being clear of the ballast at this location to avoid center-binding. The cribs are full from about 12 inches inside the rail to the tie ends and the ballast is extended to form a 20- to 22-inch shoulder.

The tracks are standard gauge (4 feet, 8½ inches) and are laid on 13-foot, 9-inch track centers, providing a clearance of 32 inches between passing trains. Trial runs at 125 miles per hour with the four-unit and two-unit prototype trains passing have shown no undesirable effects due to air pressure from train passage with this amount of clearance (except, as noted, discomfort to the ear drums).

● **Special rail section.** The rail section was especially designed for the NTL. It is designated as 50 T, but actually weighs 53 kilograms per meter, or about 107 pounds per yard. The head and web are similar to the 106 CF&I section, with a single radius in the upper fillet of 43/64 inches. The dimensions of the top vary some, but

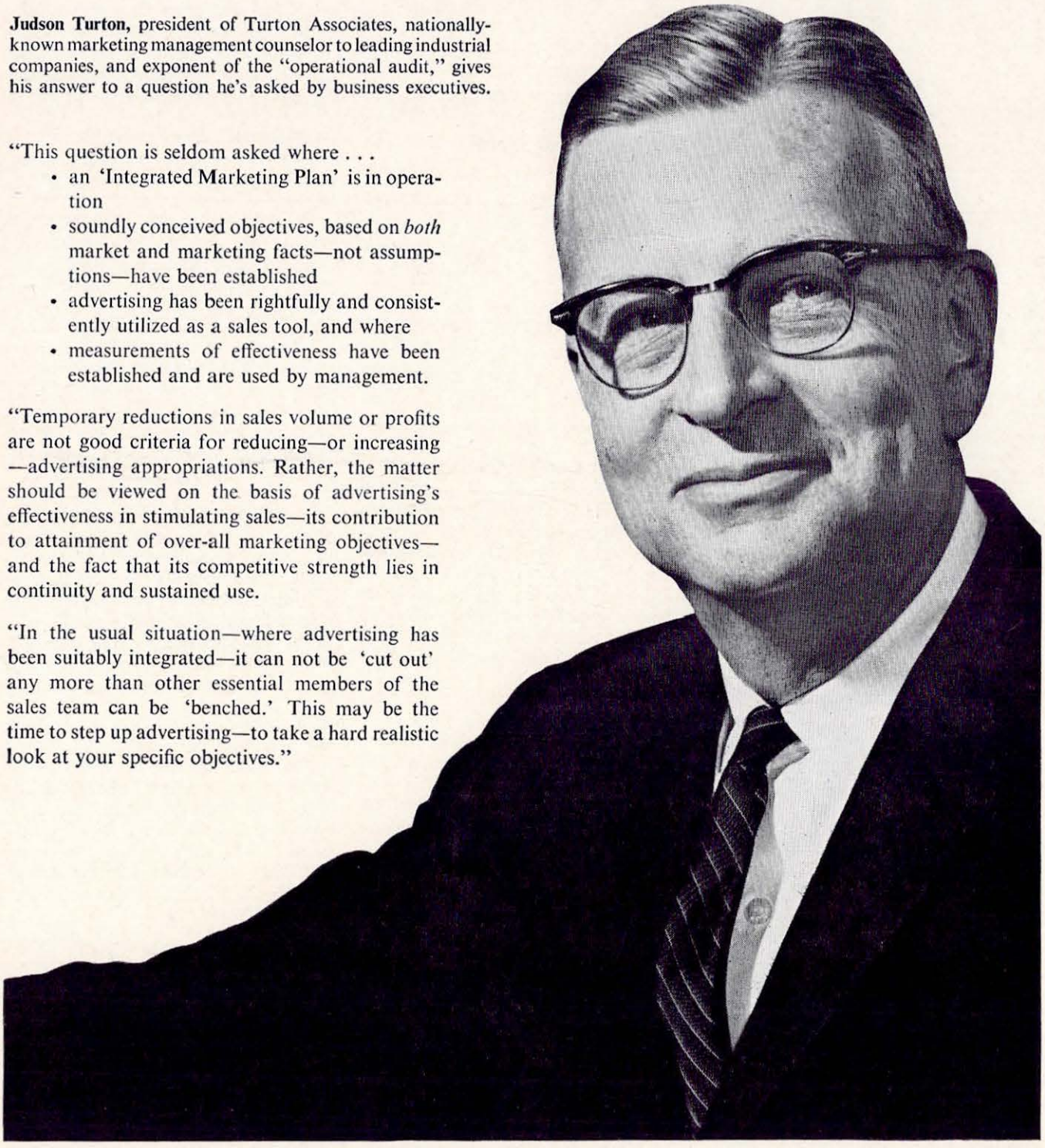
New Tokaido Line at a Glance

Length	320 miles
Maximum train speed	125 mph
Running time, "super-limiteds"	3 hours
Maximum curvature (except in stations)	42 minutes
Maximum grade	1.5%
Length of bridges	11.6 miles
Number of tunnels	66
Length of tunnels	40 miles
Length of elevated struct.	57 miles
Grade crossings	none
Gauge	standard
Rail	107-pound, butt-welded
Crossties	prestressed concrete
Ballast	crushed stone
Type of power	electric
Train operation	automatic train control
Cost of line	about $900 million
Date started	September 1959
Completion date	1964

"Should we cut out our Advertising?...

Our sales volume and profits are currently 'off'."

Judson Turton, president of Turton Associates, nationally-known marketing management counselor to leading industrial companies, and exponent of the "operational audit," gives his answer to a question he's asked by business executives.



"This question is seldom asked where . . .

- an 'Integrated Marketing Plan' is in operation
- soundly conceived objectives, based on *both* market and marketing facts—not assumptions—have been established
- advertising has been rightfully and consistently utilized as a sales tool, and where
- measurements of effectiveness have been established and are used by management.

"Temporary reductions in sales volume or profits are not good criteria for reducing—or increasing—advertising appropriations. Rather, the matter should be viewed on the basis of advertising's effectiveness in stimulating sales—its contribution to attainment of over-all marketing objectives—and the fact that its competitive strength lies in continuity and sustained use.

"In the usual situation—where advertising has been suitably integrated—it can not be 'cut out' any more than other essential members of the sales team can be 'benched.' This may be the time to step up advertising—to take a hard realistic look at your specific objectives."

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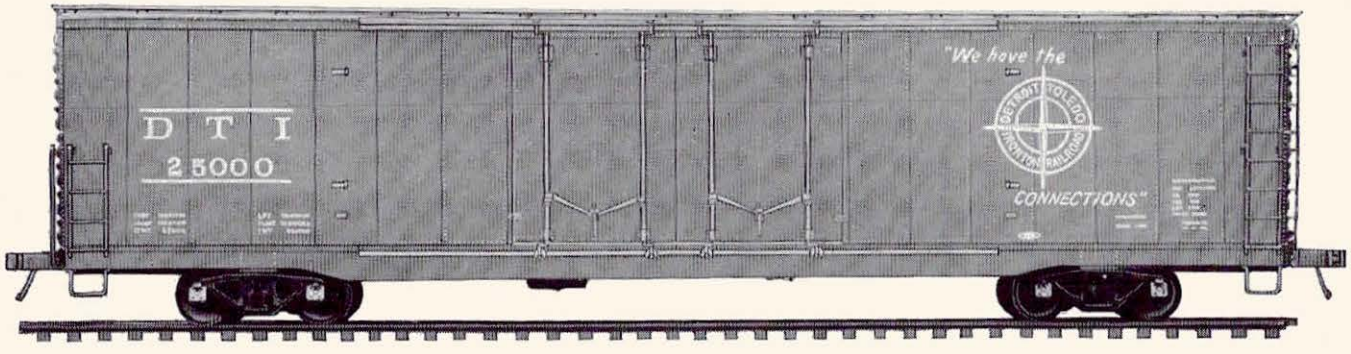
FORD CAR POOL

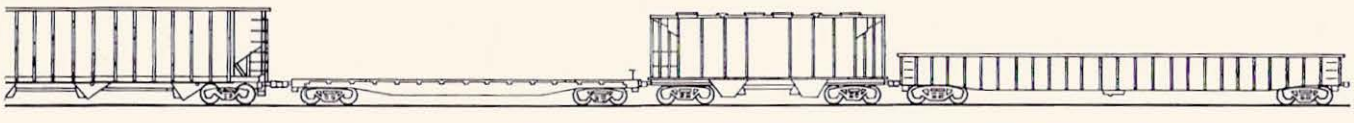
Greenville is now building, for August delivery, 60′ 9″ box cars with cushion underframes for service in the Ford Box Car Pool. They will be equipped to carry racks of automotive parts.

These cars meet all requirements for the pool. If your road is acquiring cars for this service you can be assured of 1963 delivery from Greenville. For details on delivery and price phone 412-588-7000 or write Greenville today.



←60′-9″→ BOX CARS

For general specifications and a photo of these cars write or call Greenville.



GREENVILLE
STEEL CAR COMPANY
Subsidiary of Pittsburgh Forgings Company
GREENVILLE, PENNSYLVANIA

the principle of shaping the top of the rail head and the gauge corner corresponds to the current United States rail sections adopted in 1947.

Prestressed concrete ties are used throughout except at insulated joints, turnouts and open-deck bridges. They are somewhat similar in design to the German tie, except that the rail is laid directly on a rubber pad placed on a 1:40 sloped surface on the concrete tie. Two threaded plugs surrounded by a steel-reinforcement coil are cast in the tie at each end to secure the rail. These plugs are of polyamid or polyester plastic reinforced with vinylon fiber. A hexagon-headed screw spike is screwed into each plug through a double elastic fastening clip similar to the French design, but having a separate part to hold the rail to gauge. The end of the clip that rests on the tie is insulated from it by an adjustable wedge-shaped plastic chair which allows plus or minus 0.1 inch for positioning the rail laterally on the tie.

The prestressed concrete tie is wider on the bottom than on the top, wider at the ends than at the center. The length is 8 feet, the weight is 570 pounds. Ties are spaced on 24-inch centers.

● **Rails are butt-welded.** Rail is rolled into 82-foot lengths and acetylene pressure-welded by a method developed at the RTRI into 164-foot lengths. At a suitable location track is assembled in panels with opposite joints, which are loaded several tiers high on a series of four-wheel lorries. These are pushed over the completed line to the point of laying. A line of rail is laid flat on the ballast bed just beyond the tie ends on each side of the completed track and extending over the compacted ballast bed where the assembled track panels are to be placed.

Portal cranes are used

A series of portal cranes is pushed manually back and forth over the rails to pick up one panel of track at a time from the lorries, move it ahead, and place it in the desired location on the ballast bed. Each portal crane has two manually operated hoists and rail clamps for raising and lowering the panel. The rails in the panels are joined temporarily with two joint bars and two U-shaped screw clamps until a permanent weld is made by the thermit process.

● **Special insulated joints.** About every mile, an insulated joint is provided for each rail. This joint was especially designed for the NTL and is quite complicated and expensive. In principle, it consists of four parts for each rail. The two end parts are like stock rails made from the 50 T section. The two center parts are planed from 70 S girder rail to fit at one end against the 50 T stock rails to provide for expansion movement. At the other end they are bent and planed, insulation is placed between them and they are bolted together to form a rigid insulated running surface. The theory is that the expansion joints at each end will prevent any tension or compression forces from being exerted at the insulated joint. The insulated joints in the two rails are placed directly opposite each other, but made right and left-hand. The whole section is over 40 feet long and is supported on treated wood ties with tie plates and bolted-clip fastenings.

Limits on curvature

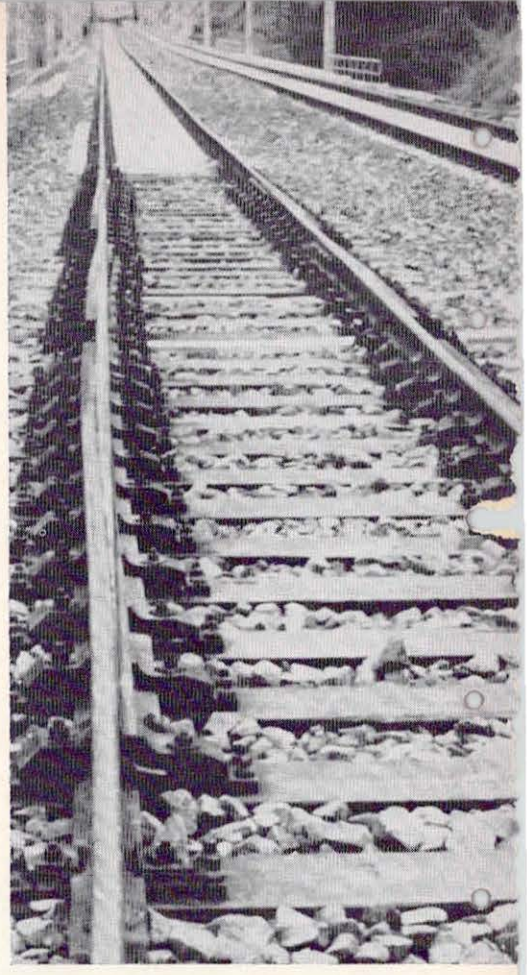
Outside of station areas, the curvature is limited to a radius of 8,200 feet or more (not sharper than 0 degrees 42 minutes). The maximum elevation on curves is set at 7.2 inches with a permissible unbalance of 2.4 inches. The length of spiral is set to give a maximum of 1.45 inches per second change in unbalance or 1.77 inches per second change in elevation, whichever is the longer. Instead of the cubic parabola as used for the spiral curve in this country, a sine curve is used, which gives a smooth running-out of the elevation change at each end of the spiral. This is considered necessary for very high-speed running.

As a general standard, the grade is limited to 1.5% with a 33,000-foot radius of vertical curve.

● **Track inspection car.** To check on the maintenance standards, a special track inspection car will be operated weekly. It is planned to maintain the track to a variation not to exceed ⅛ inch in alignment, ¼ inch in surface and ¼ inch in cross-level—all within a chord length of 40 feet. This is a high maintenance standard, particularly since these variations are determined with the rail loaded and, therefore, include the effect of any play between the tie and ballast.

● **Signaling, communications.** While we were waiting for the train to cross over for the return trip, we had an opportunity to observe one of the automatic train control devices located in the center line of track. This was a narrow, shallow conduit about 150 feet long that housed a long track loop coil for transmitting signals to and from the train.

The signaling and telecommunication system has been carefully planned for safety and reliability and economy in operation and maintenance. The principal objectives that have been met provide for continuous cab signals with no wayside signals; practically automatic control of the train speed by signals received from the central control panel;

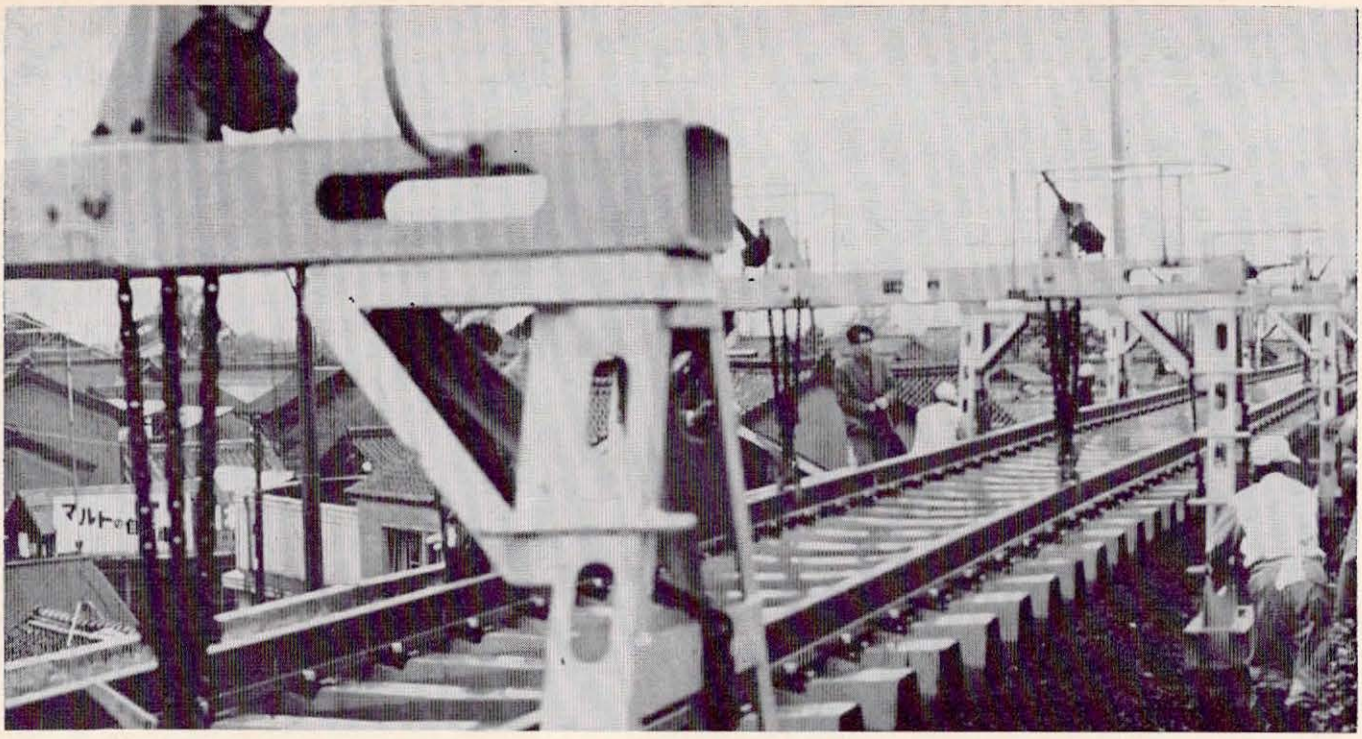


a signal device, set by the motorman to show the train number, which also automatically shows the block the train is in on the indication panel at the control center; and an automatic route-setting device which normally will program the course and scheduled time for the class of train involved.

Manual operation can be taken over by the motorman or dispatcher if an emergency arises or conditions require, but normally the scheduling and control of the train will be fully automatic from the control center. If the ATC device goes out of order, a telephone block system is to substitute for it.

For communication, a train-radio system is used, supplemented by a wired telecommunication route. For radio communication, the large number and the length of tunnels offered a problem. This was met by installing a radio-telephone booster at the portals of the tunnels and laying a two-parallel-wire-type cable along the tunnels with transistorized amplifiers at intervals of 1,500 feet.

● **Travels at 160 mph.** On the return trip over the test section, the train was brought up to a top speed of 160 mph for some distance. The riding comfort was little different at this speed than at 125 mph, with no discomfort except that previously mentioned caused by the change in ear-drum pressure in tunnels.



Japan's new 'super-railroad' uses especially designed insulated joints and pre-assembled track panels

The insulated type of joint described by Mr. Magee is shown at left. This assembly has a total length of 40 feet and is supported on treated wood ties. The track (above) is assembled in panels 164 feet long and hauled on lorries to the point of laying. Panels are then picked up and laid on the roadbed by portal cranes.

On Tuesday morning, April 16, we were taken by bus along an access road that had been provided for construction work on the NTL to observe the various phases of construction. Rain prevented us from getting out of the bus for a closer examination, but we were able to see from the bus all the various phases of placing the embankment sections and excavation, driving of piling, formwork and pouring of concrete for the reinforced concrete elevated structures, with expansion joints placed at four-panel intervals.

● **Work on long bridge.** We wound up at the site where the Kisogawa bridge is under construction. This is one of the longest bridges on the NTL, 3,280 feet. The superstructure consists of five three-span continuous trusses, supported on 16 reinforced-concrete piers resting on concrete wells placed by the pneumatic-caisson method approximately 90 feet below ground level on a stratum of sand and boulders.

We then went to the Gifu station and proceeded by train to Kyoto. Tuesday afternoon, part of the group inspected tunnel construction work nearby on the Otohayama tunnel, the third longest on the NTL, with a length of 16,450 feet, and the remainder went by bus to visit various local points of interest.

● **Tokyo-Osaka, three hours.** On Wednesday morning, we were taken by bus to observe more construction work on the new line between Kyoto and Osaka and the new station being constructed at Osaka. That afternoon, we returned by one of the fast or Kodama express trains to Tokyo, making the run in 5 hours 30 minutes. When the NTL is completed, it is planned that "super-limited" express trains will make the run between Tokyo and Osaka in three hours with one intermediate stop; "limited" express trains will cover the 320 miles in four hours with stops at all 10 intermediate stations. Passenger trains only will be operated in daytime and freight trains only at night with a scheduled speed of 5.5 hours. Freight cars will be used only for containerized high-speed freight service.

Once a week, freight-train service will be suspended for an eight-hour period to allow maintenance work to be done on the tracks. Necessary track-renewal work will be carried out at specified times during the headway between freight trains.

The following morning, the final session was held in the conference hall of the JNR head office and the American delegation was invited to a luncheon in its honor given by President Shinji Sogo of the JNR. That afternoon, movies of welding and laying long rails were shown, as the concluding technical study-week feature.

The transportation picture is quite different in Japan than in the United States. The total railway mileage in Japan is 12,650 operated by JNR and 4,670 operated by privately owned lines.

The railways in Japan carry about 13 billion passengers per year, motor transport 9.5 billion passengers per year, and air lines only 2 million passengers annually.

For freight, 250 million tons are carried annually by railways, 1,460 million tons by highway, and 118 million tons by coastal shipping.

On the basis of passenger-miles, JNR carries 50%, private railways 24%, buses 19% and air transport 1%. On the basis of freight ton-miles, JNR handles 38%, private railways 1%, trucking companies 17% and coastal shipping and barges 44%.

Heavily populated area

It is evident that JNR is an important factor in the transportation picture in Japan. The present Tokaido line functions as the artery of the nation, linking such key industrial and economic zones as the Tokyo-Yokohama, Nagoya, and Kyoto-Osaka-Kobe areas. About 40 million people, or 43% of the total population, live in the areas served by this line, and the population here is increasing more than proportionately. The industrial output along

RAILROADING AFTER HOURS WITH JIM LYNE

LYNE

HISTORIC OCCUPATIONS—Ever hear of such occupations as these: salter, loriner, girdler, fletcher, currier? These are all names of trades (and there are many others) that have passed out of existence in the world of practical business—but the names of which are kept alive in London by societies which are the remnants of the old trade guilds. Each guild operates as a fraternal society and operates only for ceremonial and charitable purposes.

Nobody can rejoice at the disappearance of a respected skilled trade. At the same time, who has the money to keep the trade in active production when the public has found a better or cheaper way of getting the products or service it formerly provided? The U.S. has some occupations that have already become almost extinct (e.g., "mule skinner") and others (such as Morse code operators and locomotive firemen) are on the wane.

Keeping them alive as fraternal societies, as the British do, strikes me as a more practical solution than that of trying to maintain the occupation on the active payroll indefinitely.

AQUARIUM CAR—A Belgian Railways publication has an announcement and an illustration of an "aquarium car," allegedly being offered to provide transportation of live fish "right to your plate." I suspect these Belgians are kidding, because the car they picture looks like an ordinary gondola with fish being shown in it, as if the car were equipped with windows. They promise full technical details in a subsequent issue of their magazine. The railway fraternity will be agog with curiosity as to what technologies and services may be involved.

BUILT-IN WEEVILS?—A chief railway executive was telling me not long ago of some instances of shippers' dissatisfaction at the arrival at destination of grain shipments with indications of infestation by weevils. He raised the question as to whether or not a railroad would likely, in ordering cars, specify that they be equipped with built-in weevils; and, if not, then how would the weevils get there. I got the notion that he felt, maybe, there was just an outside chance that the weevils came into the car with the grain. If so, my guess would be that livestock rates should be collected for that ratio of the total lading represented by weevils.

REGULATION BY NONSENSE?—"Most economists and accountants seem to agree," said Commissioner Webb in a recent speech, "that fully distributed costs represent the result of an effort to allocate certain costs which by definition cannot be allocated to particular service units. There is no doubt in my mind that such fully distributed cost constructions are bottomed on economic fallacy."

But, added Commissioner Webb: "This form of economic nonsense . . . may be entirely sound from a regulatory point of view."

HOW TO SELECT OFFICERS—I recall, quite a few years ago, that the late Professor W. J. Cunningham proposed that most if not all railway officers be chosen from a corps of "cadets" who would receive thorough on-the-job training and testing before getting responsible assignments. But he did not recommend limiting the "cadet" selection to college boys. Instead, if I remember correctly, he believed half the cadet corps should be chosen from promising fellows in the ranks.

As I look around, I get the impression that, on some railroads, selection of officers comes very largely from the "trainees"; and the trainees, in turn, are quite often largely limited to high-ranking college graduates (sometimes to engineers only). Is there always as much flexibility in arrangements for selection as might be desirable?

It used to be said with a great deal of truth (of many railroads, as well as industrial companies) that the method of assigning official jobs was easy: When the top man stepped down, you moved everybody one step up the ladder and hired a new office boy. That was an extreme swing of the pendulum in the direction of seniority. Could it be that the pendulum in American industry might also have an extreme swing in the opposite direction?

the line accounts for about 70% of the nation's total output.

● **Why NTL is needed.** Taking into account the future growth of population, it was evident that the capacity of the present line would soon be exceeded, and in fact it is at present hard-pressed to handle the business. Another consideration was the fact that a "super-railroad" between Tokyo and Osaka with a three-hour running time would compete with air-travel time between these points when travel time to and from the airports was included —and the fare would be less. It was recognized that some traffic would be diverted to a new four-lane super-highway being constructed between Tokyo and Kobe, but it was estimated that this would amount only to about 10% of passenger traffic and 5% of freight traffic.

Accordingly, it was considered that additional track capacity was needed. Rather than add additional track to the existing line—with its 100 stations and 1,000 grade crossings—it was decided to build a "super-railroad" of standard gauge with only 10 intermediate stations and no grade crossings, with curves and grades designed for a top operating speed of 125 miles per hour and average speed for the "super-limited" express trains of 105 miles per hour.

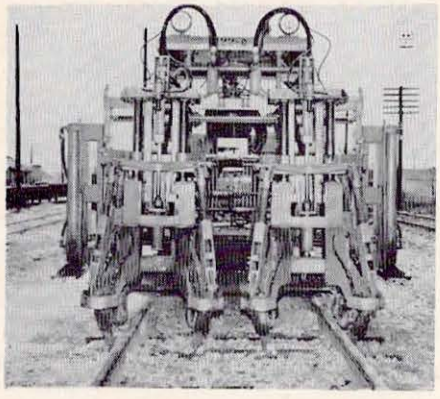
The change to standard gauge was considered desirable for a number of reasons. First, it was considered necessary for stability at such high speeds. Second, it was not desired or necessary to interchange NTL passenger or freight cars with the other trackage, and in fact to construct the connecting trackage to do so would be very costly. Third, it permitted complete modernization without any limitations to fit existing equipment. Fourth, it permitted using larger cars.

Construction of the NTL is an imaginative and challenging undertaking. Its total cost will be on the order of $900 million. The project is being financed by the Japanese government with the aid of a loan of $80 million from the World Bank.

NTL's length of about 320 miles is about 25 miles shorter than the present line. The total length of the 66 tunnels is 40 miles, or almost 13% of the total line length. The total length of bridges is 11.6 miles, or 4%. The total length of elevated structure, excluding that on embankment, is 57 miles, or 18%.

Careful economic studies have indicated that the NTL will be a profitable venture—and certainly it will be a source of pride and prestige for Japan. Construction was begun in September 1959 and completion is scheduled in 1964, just prior to the Olympic games to be held in Tokyo next year.

NEW PRODUCTS REPORT

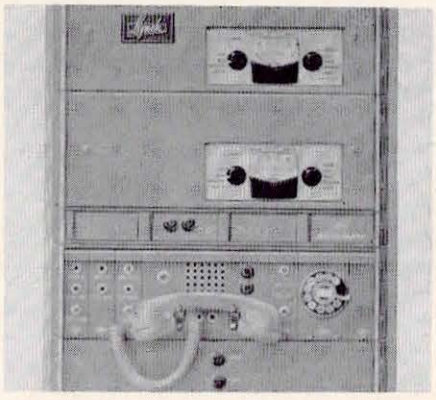


Tamping Machine (RA-1)

The McWilliams Multi-Purpose 8 jacking tamper has been redesigned to deliver greater tamping-gun power and 25% more speed. It now is equipped with spring-loaded connecting rods to direct each of the eight tamping tools. The rods replace the individual air cylinders formerly used and are similar to those used on the company's production tampers. The manufacturer states that the spring-loaded rods produce a more lively action as the tamping tools enter the ballast and that they allow the guns to do a more uniform tamping job in load-bearing areas of the tie. It is reported that the rods have the advantage over cylinders because, as a particular tool accomplishes its work, the rod will telescope, permitting the other tools to continue working. The new model has pneumatically powered tamping guns and brakes; all other operating functions now are accomplished hydraulically. The elimination of the cylinders has permitted the use of a smaller and lighter air compressor. *Railway Maintenance Corporation.*

Welder Package (RA-2)

The constant-voltage motor-generator welder of the Multi-wire welder package is designed to supply the highest to the lowest amperage required for any of the semi-automatic welding processes. It is rated 750 amp, 50 volts, continuous duty cycle, with an open-circuit voltage range of 3 to 65 volts. Welding current is adjustable for high, medium, and low by changing the electrode cable among three studs. *Hobart Brothers Co.*



Solid-State Microwave (RA-3)

A new solid-state microwave system, LH-700 is capable of handling 600 voice channels, and is especially suited for data transmission. Cross-talk coupling per terminal pair is less than 65 db. Battery operation is practical because the power supplies provide low power drain (less than 200 watts per terminal). A basic LH700 microwave terminal consists of a transmitter, receiver and power supply. *Lynch Communication Systems, Inc.*

Extinguisher (RA-4)

A Pressurized Dry Chemical Extinguisher, weighing only 5 lb fully charged, is said to carry "a powerful 6-B, C Underwriters' Laboratories rating." The 14⅛-in.-high extinguisher features a "safety eye" pressure gauge that can be read at a glance, a corrosion-proof brass valve, an easy-to-operate squeeze-grip handle, and a safe 12- to 14-ft discharge range. It will put out both flammable liquid and electrical fires. *Fyr-Fyter Co.*

Talk-back Speaker (RA-5)

The GB-2365 yard talk-back speaker can be furnished with or without matching transformer and with a mounting flange to fit a 2½-in.-dia. standard. Two University MM2F loudspeakers are mounted in a cast aluminum alloy housing. Space is provided within the housing between the two loudspeaker units to mount the impedance or line matching transformer. *Railroad Electronic Laboratories of Omaha, Inc.*

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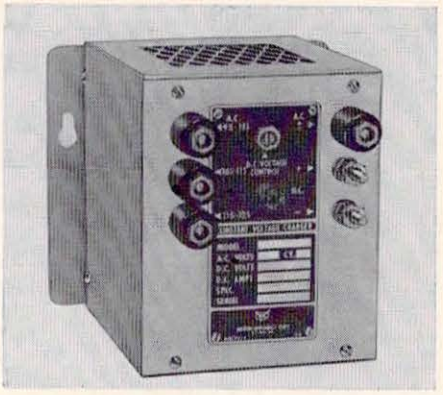
NEW PRODUCTS REPORT

Tape Reader (RA-6)

A new bi-directional photo-electric perforated tape reader can read at speeds up to 300 characters per second. The reader, model B2500, offers single speeds at 100 to 300 characters per second and stops on the stop character at either speed. It can handle paper or mylar tape .004 to .005 inches thick. Standard 5-, 6-, 7-, or 8-level tapes can be used interchangeably. The unit is solid-state, using silicon photo-diodes. *Digitronics Corp.*

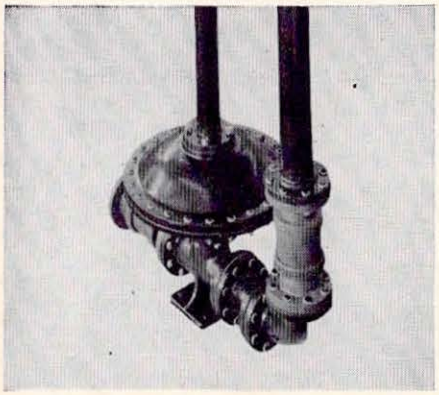
Liquid Level Indicator (RA-7)

The self-contained alarm lamp of the Series 200 Liquilite, a liquid-level-sensing, indication and control system, permits "seeing through" the tank wall while providing remote indication and control at distances from the tank. The liquid level sensing accuracy of the all-transistor design is said to be 0.01 in. Standard models operate from 9, 12, 28, 32, or 70 volts d-c, and 26 or 115 volts a-c at 60 or 400 cps. *Controlotron Corp.*



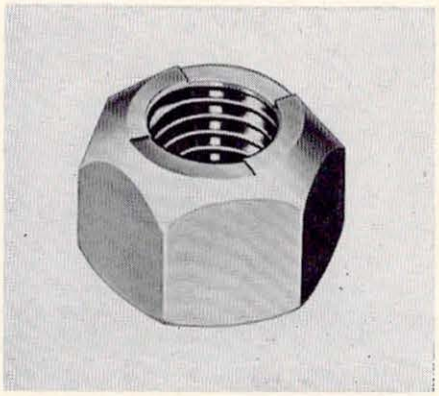
Battery Chargers (RA-8)

A new line of fully automatic constant voltage battery chargers feature silicon diode rectification with lightning surge protection, and solid state elements with no moving parts construction. Three models are available with ratings ranging from 3 to 5 amp DC and 3.5 to 16 volts maximum output. The units will automatically recharge and maintain a constant present voltage on lead acid or alkaline cells of storage battery. *Motor Appliance Corp.*



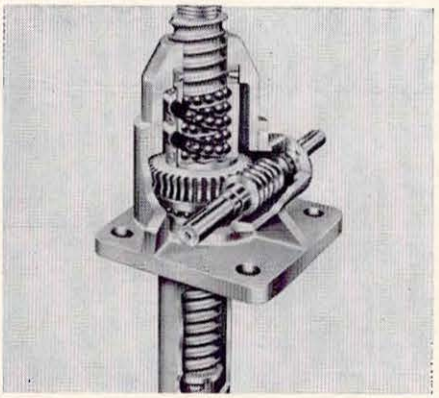
Slurry Pump (RA-9)

The ODS pneumatically actuated diaphragm slurry pump for acid transfer in chemical or metal-treating installations, or for acid sludge handling in petroleum refineries can be adapted for field discharge of tanks mounted on motor trucks or rail cars. Only discharge line and operating air pump penetrate the manhole cover plate. Sizes 1½, 2, 3, and 4-in. range in capacities up to 90 gpm at 100 lb per sq in. *Door-Oliver Inc.*



Lock Nut (RA-10)

The Super Uni-Torque lock nut, an adaptation of the Uni-Torque lock nut, locks in any position on the bolt by deflecting the top threads of the nut out of their true helix so that they take a firm grip on threads of the mating part. The sweeping chamfer of the top of the nut makes it instantly identifiable either by sight or feel. Sizes are ¼ in. through 1 in., finished hexagon series, with national coarse and fine threads. *MacLean-Fogg Lock Nut Co.*



Mechanical Actuator (RA-11)

The Ball Screw Jactuator, in moving rated loads, is said to give efficiencies up to 75%, depending on the ratio of the worm gear set. It can be designed into systems by engineers without engineering their own actuators. Only additional equipment needed is a motor and brake. The unit is available with upright, inverted, or rotating screws in 2-, 5-, 10-, 20-, 25- and 50-ton capacities and can be used singly, in tandem, or in multiple. *Duff-Norton.*

RI Streamlines Its Traffic Department

The road's goal is to 'enlarge the scope and emphasis placed on customer sales and service.' Among the changes, effective June 1, is the establishment of a Market Research Bureau.

Rock Island is stepping up its entire Traffic Department effort to serve customers. As a result of a management decision, implemented by RI's President R. Ellis Johnson, a six-month study of RI's Traffic Department was recently completed by Booz, Allen & Hamilton, management consultants. RI's Traffic Vice President Elden A. Tharp announced changes—which became effective June 1—that will "enlarge the scope and emphasis we place on customer sales and service," by:

- Establishing a Market Research Bureau to "examine thoroughly the likes and dislikes of RI's customers in today's changing traffic patterns. RI proposes to determine systematically the reasons why certain freight is shipped by truck, by barge or by private carriage—any transportation mode other than by Rock Island."
- Naming a Manager of Special Equipment from the RI's Mechanical Department.
- Establishing two new top-level positions on the sales management staff—"to give closer direction to the work of the various district sales managers and their staffs," in Mr. Tharp's words.
- Establishing a training section within the Traffic Department that will help the development of salesmen and assist in formulation of sales training programs. "Our training section will work with our established sales staff as well as with new men," noted Mr. Tharp.
- Establishing a special department for handling piggyback business.

Mr. Tharp described the beginning of RI's drive to zero in on giving the Rock Island's customers better service as the decision to call in the consultants. "The study—over a period of six months—recommended a progressive recasting of our efforts and also some new services. Now that we've announced the organizational changes and selected the men who are going to head up the new sections, we'll have Booz, Allen & Hamilton come in and give us a hand in formulating some of the specific features that will enable us to do a better job.

Bringing a mechanical engineer into RI's Traffic Department, one of the most unusual aspects of the changes, was described by Mr. Tharp as needed for ". . . a field that is getting more important all the time. Industries are asking for more and more specialized equipment. We want our mechanical engineer to consult with them and then draw up specified proposals for our management to consider. The RI has nearly 5,300 specialized cars in its diversified equipment fleet, and the proper assignment and judicious use of these cars is paramount to an efficient operation." Mr. Tharp's feeling is that a Traffic Department mechanical engineer can "most effectively police our present special equipment—and can possibly come up with more economical solutions to specific shipper problems involving new equipment requests." To head up this work, RI named David L. Waite, mechanical engineer, as Manager of Special Equipment.

"The rash of demands for new equipment—and it seems to me there is getting to be something fashionable in having this kind of special equipment—demands the attention of a man trained to look at customers' requirements with an engineer's view."

Market research is an area where RI intends to proceed through some basic areas before venturing into new market investigation. "We're going to analyze our own traffic statistics and find out precisely what the level of profitability of all RI's traffic is—before we do anything else," notes Mr. Tharp.

"Research will certainly give us the tools to find the spots where we're undermanned, for instance—or overmanned, for that matter—and will provide us with a continuous opportunity to determine the quality of salesmanship from the standpoint of RI earnings rather than how many cars a particular salesman got. I think this research effort will provide us, the RI management, with closer control and ability to pinpoint responsibility in the future." RI's Market Research Bureau will be under the direction of Allen W. Brown, named Manager of Sales Planning.

RI's new Piggyback Department was established to deal with the rising levels of TOFC traffic. Amounting to about 4% of RI's traffic, TOFC in 1962 was 30% greater than in 1963 and—so far this year—about 60% greater than it was in 1962. "This traffic has grown to where it needs the undivided attention of one of our top traffic officers," said Mr. Tharp, "and we want to be sure we are alert to the opportunities that exist in this growing type of rail traffic." Donald C. Hansen, RI's new Manager of TOFC Traffic, is reorganizing and augmenting the railroad's staff for handling TOFC traffic.

RI's new training program will be set up after further study by the railroad's new Director of Sales Training and Management Development, Fred J. Meyer, and Booz, Allen & Hamilton. "We'll set up the program we need—to work with our present sales force as well as with new men as they arrive. I don't mean to say that our present sales force is not of good quality. It is just that there is always need for improvement and we intend to do whatever needs doing to give RI's customers the best sales service possible," commented Mr. Tharp.

RI's new Freight Sales Managers are David F. Newberry and J. Otis Cathey, both headquartered in Chicago. Both men occupy new positions that were created and added to the sales management staff directed by Albert F. Hatcher, assistant vice president-traffic, and by General Sales Manager Alton J. Ferrell.

Dividends Declared

CHICAGO GREAT WESTERN.—Preferred, 62½¢, quarterly, payable June 29 to holders of record June 14.

CHICAGO, ROCK ISLAND & PACIFIC.—25¢, quarterly, payable June 30 to holders of record June 14.

GULF, MOBILE & OHIO.—50¢, quarterly, payable June 10 to holders of record May 24; $1.25, quarterly, payable Dec. 16 to holders of record Nov. 29.

ILLINOIS CENTRAL.—50¢, quarterly, payable July 1 to holders of record June 3.

KANSAS CITY SOUTHERN.—$1, quarterly, payable June 15 to holders of record May 31; Preferred, 50¢, quarterly, payable July 15 to holders of record June 28.

MISSOURI PACIFIC.—Class A, 60¢, quarterly, payable July 1 to holders of record June 14.

NORTHERN PACIFIC. — 55¢ quarterly, payable July 31 to holders of record July 10.

NORTH PENNSYLVANIA.—$1, quarterly, paid May 25 to holders of record May 17.

ST. LOUIS-SAN FRANCISCO.—25¢, quarterly, payable June 17 to holders of record June 3.

UNION PACIFIC.—30¢, quarterly, payable July 1 to holders of record June 10.

WHEELING & LAKE ERIE.—$1.43¾, quarterly; Preferred, $1, quarterly, both payable Aug. 1 to holders of record July 5.

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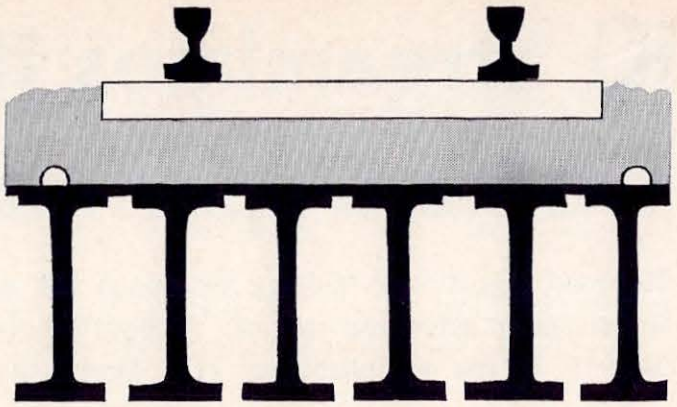

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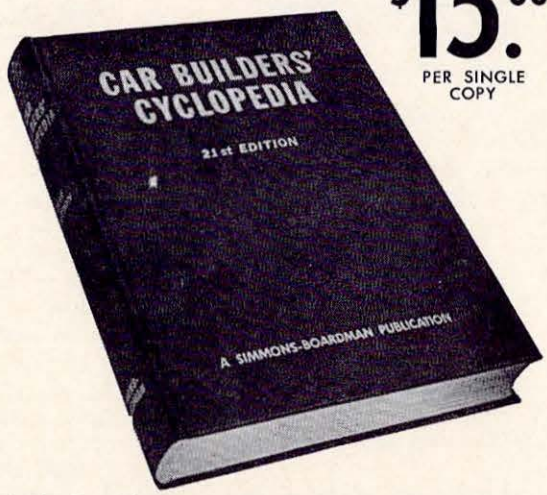

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ICC Acts to Keep Car Order Obeyed

Penalties amounting to $6,200 have been imposed for alleged violations of the Commission's order requiring the expedited return to home railroads of certain specialized freight cars.

Civil forfeiture penalties totaling $6,200 have been imposed in four of 18 cases involving 250 alleged violations of one of its service orders which the ICC referred to the Department of Justice. The order is ICC Revised Service Order No. 939, effective June 5, 1962, and its reissue, Second Revised Service Order No. 939, effective Feb. 6, 1963, which requires expedited return to home roads of 50-ft. box cars and box cars 40 ft. long or longer with side door openings at least eight feet wide.

The enforcement action was announced May 28 by Chairman Laurence K. Walrath, who said the Commission had tried to obtain voluntary compliance "in as many instances as possible." The ICC chairman added: "However, in policing compliance with the order, agents of the Commission's Bureau of Safety and Service discovered that some carriers continued to disregard the provisions of the order, thus depriving owners of the use of urgently needed rolling stock."

The civil forfeiture penalties already paid involved 48 alleged violations. The railroads, number of violations charged, and penalty payments were these: Baltimore & Ohio, 15 counts, $1,500; Denver & Rio Grande Western, 14 counts, $1,400; Grand Trunk Western, 9 counts, $1,800; Seaboard Air Line, 10 counts, $1,500.

The law provides for penalties ranging from $100 to $500 for each violation. Within those limits, the courts have discretion.

Eleven other cases are pending in various federal district courts where complaints have been filed by the Department of Justice. One of the railroads involved, New York Central, is charged with seven violations. Each of the other 10 is charged with 15 violations. They are: Atlantic Coast Line, Milwaukee, Chicago & North Western, Illinois Central, Louisville & Nashville, Nickel Plate, Pennsylvania, Southern Pacific, Texas & Pacific, Wabash. Three additional cases involving 45 alleged violations have also been referred to the Department of Justice.

ICC Chairman Walrath's announcement said, too, that Commission agents have also been investigating compliance with Service Order No. 943, which requires expedited return home of plain box cars owned by nine western railroads. The chairman added: "In view of the continuing critical shortage of most types of box cars, especially in the grain producing areas of the Midwest, full compliance with the provisions of these two service orders is imperative to insure maximum utilization of the nation's box car fleet."

RPI to Coordinate Legislative Efforts

Legislative activity on behalf of the railroads by seven railway supply industry associations will be coordinated through the Railway Progress Institute's Public Affairs Council under a plan tentatively accepted by the associations at a meeting May 22 in Chicago.

Specific steps to effect the coordination will be worked out with RPI "following approval of such action by the governing bodies of the respective organizations," an RPI report on the meeting stated. Approval by the associations would give the RPI authority to represent the entire industry before Congressional committees. RPI is registered under the Federal Registration of Lobbying Act.

The associations said that because of "their by-laws, legal restrictions, staff availabilities and financial status," none would be able to undertake formal legislative activity in the railroads' behalf. Instead, they agreed to cooperate with the RPI's PAC to marshal "supplier support for the legislative objectives of interest to the railroads."

The meeting, called by RPI, was the result of a resolution passed by the general committee of the Purchases and Stores Division of the Association of American Railroads, urging the development of stronger and more effective support from the supply industry for railroad legislation. Attending the meeting were officers of the American Railway Car Institute, the American Wood Preservers Association, the Association of Track & Structure Suppliers, the National Railway Appliances Association, the Railway Signal & Communications Suppliers Association, the Railway Supply Association, and the Railway Tie Association.

In calling the meeting, the RPI governing board and executive committee pointed out that the PAC, organized after President Kennedy's Transportation Message was delivered to Congress, "can (and does) reach every railway equipment and supply company in the United States, including both RPI members and nonmembers."

The associations expressed "sincere appreciation" for the AAR resolution offering assistance "in organizing and coordinating their (suppliers') activities for the promotion of sound legislative programs for the railroads." The associations, according to the report, agreed "that spokesmen for the railway supply industry should represent the broadest possible segment of the industry for which they speak."

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PEOPLE IN THE NEWS

ASSOCIATION OF AMERICAN RAILROADS.—Michael W. Roark, general adjuster, **Milwaukee,** elected chairman, General Claims Division, AAR.

ATLANTIC COAST LINE.—Thomas D. Moore, Jr., superintendent, **Southern,** appointed general industrial agent, Development Department, ACL, Atlanta, Ga.

CARTIER.—The following appointments have been made at Port Cartier, Que., Canada: **J. T. Robertson,** general superintendent of transportation; **W. H. Freeman,** superintendent of railway maintenance; **A. R. Visokey,** superintendent of railway operations; and **P. P. Begley, H. R. McKay** and **R. M. McCarthy,** trainmasters.

CHICAGO GREAT WESTERN.—J. C. Dodd, general manager, Kansas City, Mo., named assistant to the president there. **H. A. Peterson,** assistant general manager, Oelwein, Iowa, promoted to general manager there. **A. E. Smith,** chief engineer, appointed assistant general manager—chief engineer, Oelwein.

COTTON BELT.—G. F. Battenfield, assistant treasurer, Tyler, Tex., named secretary and treasurer, succeeding **M. G. Mitchell,** who retired Feb. 28. **J. L. Hobold,** cashier and assistant secretary, promoted to assistant secretary and assistant treasurer.

Dr. Frank B. McCutcheon appointed chief surgeon at Cotton Belt Hospital, Texarkana, succeeding **Dr. William Hibbitts,** who retired April 30.

DEPARTMENT OF THE ARMY.—Brig. Gen. Edward W. Sawyer, Deputy Commanding General, Transportation Center, and Assistant Commandant, Transportation School, Fort Eustis, Va., has been named U.S. Army chief of transportation, effective in June. He succeeds **Maj. Gen. Rush B. Lincoln, Jr.,** named commander, Defense Traffic Management Service.

JERSEY CENTRAL.—John D. Galuppo, manager at Pier 18, Jersey City, N.J., appointed freight trainmaster, Elizabethport, N.J. **Arthur L. Whitfield** named assistant freight trainmaster there. **Asa B. Condit,** assistant trainmaster, Somerville, N.J., retired March 31.

John T. Kurando, commercial agent, freight traffic department, appointed coal freight agent, Jersey City, succeeding **Hugo F. Kraus,** retired after 45 years with the Jersey Central.

MAINE CENTRAL.—James W. Wiggins, chief engineer, Portland, Me., will become vice president—engineering and transportation on July 1. **Roy E. Baker,** general manager, becomes vice president—purchases, stores and mechanical. **Willard E. Pierce,** assistant general manager, becomes general manager, with jurisdiction over transportation and labor relations. **Charles D. Prentice,** engineer of track, will be chief engineer. **Harrison M. Rainie,** vice president—purchases and stores, will become a consultant to the purchases and stores department on July 1, effective date of all the appointments, and will retire from active railroad service in September.

NORFOLK & WESTERN.—Nathan T. Harvey, general accountant—statistics, comptroller's office, retired, after 42 years' service.

The Jacksonville, Fla., office of the N&W, formerly located in the Independent Life Building, now is located in Room 1308, Atlantic Coast Line Building. **Chester H. Sheffield** is general agent there.

RARITAN RIVER.—H. T. Filskov, general manager, South Amboy, N.J., elected vice president and general manager.

RICHMOND, FREDERICKSBURG & POTOMAC.—John T. Baylor, assistant revenue accountant, advanced to auditor of internal audit and procedures. **Frank A. Crovo, Jr.,** tax accountant, named auditor of taxes and general accounting; **James T. Rice,** internal auditor, appointed auditor of expenditures. **Robert L. Trevvett,** revenue accountant, named auditor of revenues.

SOUTHERN.—William J. Dickinson, assistant freight traffic manager, Macon, Ga., appointed to the newly created position of assistant vice president—resident, Montgomery, Ala. **Gordon Spencer,** formerly with the Terminal Transport Co., appointed manager—rail-highway services, Chattanooga, Tenn. **Laurence P. Keoughan,** formerly with the **Pennsylvania,** appointed assistant manager—rail-highway services, New York. **Philip T. Krug,** formerly with Service Lines, Inc., Chattanooga, appointed assistant manager—rail-highway services, Birmingham, Ala. **Norman E. Poore,** superintendent of equipment, Washington, D.C., named assistant manager—railway services, Chattanooga.

David E. Peterson, Jr., assistant superintendent, Somerset, Ky., promoted to superintendent, Winston-Salem, N.C. **John L. Gable** appointed director—operations research, Atlanta, Ga. **Maury I. Barksdale,** assistant trainmaster, Birmingham, appointed trainmaster, Mobile, Ala. **T. W. Martin** appointed terminal trainmaster, Charlotte—Airline Junction, N.C.

William M. Jeffrey, Jr., appointed assistant general computer engineer, Washington, D.C.

Marvin E. Wilson, Jr., general division engineer, Atlanta, appointed division engineer, Knoxville, Tenn.

UNION PACIFIC.—Ferrell J. Beggs appointed general traffic agent, Cincinnati, Ohio, succeeding **Emil W. Mau,** who retired May 31, after more than 49 years of railroad service. Mr. Beggs was formerly traffic agent, Chicago.

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Supply Trade

W. P. Bollinger has been appointed vice president—research and engineering, **Union Switch & Signal Division of Westinghouse Air Brake Co.,** Pittsburgh, Pa. Mr. Bollinger was formerly director of programs management, Philco Corp., Philadelphia.

Alfred J. Stumpf appointed industrial sales engineer for **Stromberg-Carlson,** division of **General Dynamics Corp.,** operating out of Burlingame, Calif. Mr. Stumpf will assist railroads, pipeline companies, utilities and other organizations with their plans for private communication systems.

D. W. Zimmerman, Philadelphia district sales manager, Symington Division, **Symington Wayne Corp.,** retired May 31. **Robert V. Simpson,** sales engineer, will assume Mr. Zimmerman's duties.

OBITUARY

Joseph N. Jobaris, 54, superintendent of shops and equipment, **Chicago Transit Authority,** died May 22 in MacNeal Memorial Hospital, Berwyn, Ill.

Market Outlook

Carloadings

Loadings of revenue freight for the week ending May 25 were not available as this issue went to press.

PIGGYBACK CARLOADINGS. U.S. piggyback loadings for the week ended May 18 totaled 15,711 cars, compared with 14,022 for the corresponding 1962 week. Loadings for 1963 up to May 18 totaled 296,252 cars, compared with 259,781 for the corresponding period of 1962.

IN CANADA.—Carloadings for the seven-day period ended May 14 totaled 70,761 cars, compared with 69,602 for the previous seven-day period, according to the Dominion Bureau of Statistics.

	Revenue Cars Loaded	Total Cars Rec'd from Connections
Totals for Canada		
May 14, 1963	70,761	23,303
May 14, 1962	71,302	23,702
Cumulative Totals		
May 14, 1963	1,182,166	433,837
May 14, 1962	1,181,650	449,372

Pipelines Held Key To RR Coal Rates

Texas Eastern Transmission Corp., an advocate of coal-slurry-pipeline operations, isn't at all sure that railroads will maintain present reduced rates on coal unless proposed pipelines are actually built.

J. W. Hargrove, Texas Eastern's financial vice president, told Boston security analysts last week that "If I were an (electric) utility operator I would wonder whether today's rate cut, once the threat of competition from the coal pipeline is removed, wouldn't quickly turn into tomorrow's rate increase. And I would do everything in my power to see that coal pipelines are built and continue to provide effective competition." Utility operators "who have rejoiced over the railroad rate reductions," he noted, "may be premature in their optimism."

Coal pipelines, he added, have "effectively demonstrated" their feasibility and economy: "We are confident that we can compete favorably with the railroads at any compensatory rate they might propose. Pipelines are a cheaper, more dependable, more expeditious and a more convenient form of transportation."

New Equipment

FREIGHT-TRAIN CARS

► *Norfolk & Western.*—Ordered six 89-ft, 70-ton bi-level rack cars from Pullman-Standard for August delivery. Cars will be used for shipment of new trucks from assembly plant to dealers.

New Facilities

► *Texas & Pacific.*—Will replace radio equipment in 72 cabooses and 13 passenger locomotives at an estimated cost of $115,396. Installation is scheduled for completion by December 1963.

Capital Expenditures

► *Southern Pacific.*—Will invest about $100 million in capital improvements this year—principally "in new freight cars and highway equipment specifically designed to meet new and changing shipper requirements," President D. J. Russell has told stockholders. Noting the trend toward higher-capacity cars, he said SP's 1963 acquisitions will include flat cars up to 89 ft long and box cars up to 87 ft.

Orders and Deliveries

► *Orders Decrease.*—Orders were placed in April for 2,573 freight cars, compared with 5,808 in March. April 1962 orders totaled 2,445. Deliveries in April totaled 3,755, compared with 4,026 in March, and 3,420 in April 1962. Backlog of cars on order and undelivered on May 1 was 19,872, compared with 21,307 on April 1 and 14,244 on May 1, 1962.

Type	Ordered April, 1963	Delivered April, 1963	On Order & Undelivered May 1, 1963
Box — Plain	410	942	6,715
Flat	506	637	1,559
Gondola	10	269	15
Hopper	0	238	2,869
Covered Hopper	609	495	2,060
Refrigerator	338	438	4,030
Stock	0	0	300
Tank	658	475	1,763
Caboose	0	110	80
Other	42	151	481
TOTAL	2,573	3,755	19,872
Car Builders	2,111	2,812	10,401
Railroad Shops	462	943	9,471

Purchases

► *Two Months' Purchases Down 0.3%.*—Purchases by domestic railroads of fuel, material and supplies in the first two months of this year were $710,000, or 0.3%, lower than in the comparable 1962 period. Purchase estimates in following tables were prepared by Railway Age.

PURCHASES*	February 1963	Two Months 1963	Two Months 1962
	(000)	(000)	(000)
Rail	$ 3,547	$ 6,883	$ 8,800
Crossties	3,441	6,968	5,474
Other Material	68,661	141,039	139,793
Fuel	28,077	59,452	60,985
Total	$103,726	$214,342	$215,052

*Subject to revision.

WATCHING WASHINGTON WITH WALTER TAFT

TAFT

● **THE RAILROAD INDUSTRY'S 1963 PRESENTATION** in support of bills to implement President Kennedy's Transportation Program was scheduled to get under way this week before the House Committee on Interstate and Foreign Commerce. This committee, like the Senate Commerce Committee, has been holding hearings on the bills for the past month. Although the Kennedy program includes several other proposals (RA, March 11, p. 44), most attention is being given to the so-called minimum-rate bill, which is H.R.4700 in the House and S.1061 in the Senate. This bill would implement the President's call for the ending of ICC and Civil Aeronautics Board powers to fix minimum rates for railroads, truck and air transportation of commodities in bulk, the water transportation of which is exempt from all regulation, and for railroad, water and air transportation of agricultural and fishery products, where truck transportation is now unregulated. The bill would also remove the ICC's power over minimum fares of railroads and bus lines.

THE AAR will be represented at this week's House hearings by its president, Daniel P. Loomis, Chairman Ben W. Heineman of the Chicago & North Western, Presidents D. W. Brosnan of the Southern and Jervis Langdon, Jr., of the Baltimore & Ohio, and J. M. Souby, Jr., assistant chairman and counsel, Executive Committee—Western Railroad Traffic Association. The American Short Line Railroad Association will be represented by its president, D. L. Manion.

IN THEIR DRIVE for implementation of the minimum-rate proposal, which they regard as the heart of the President's program, the railroads have much support, including that of their customers as represented by the National Industrial Traffic League and their suppliers as represented by the Railway Progress Institute. The proposal is also supported, of course, by various executive agencies of the federal government, including the Departments of Commerce and Agriculture.

FORMIDABLE OPPOSITION, however, is also in the picture. It comes principally from truckers, water carriers, and the ICC. Moreover, the Railway Labor Executives' Association is also in the opposition camp.

AMONG FEATURES of the AAR presentation will be an undertaking to convince the committee that the bill should be amended to leave in full effect the Reed-Bulwinkle Act (now Section 5a of the Interstate Commerce Act), which grants anti-trust immunity for carrier rate procedures approved by the ICC. The bill's present version proposes to continue such immunity, as to bulk and agricultural commodities, only for joint rates, leaving single-line rates uncovered.

IF this change is not made, the bill will lose the support of the NIT League. The League's supporting resolution made its endorsement contingent on preservation of the conference method of rate making on the present basis. Its president, Harry O. Mathews, emphasized this in his recent presentation to the committee.

THE ICC was also scheduled to appear before the House committee this week. Presumably, its presentation will be along lines of the letter which its chairman, Commissioner Laurence K. Walrath, sent recently to the committee's chairman, Representative Oren Harris (D. Ark.). The letter pointed up the Commission's adherence to its position in favor of the so-called alternative of repealing the present bulk-commodity and agricultural exemptions. The railroads consider this politically unrealistic.

Integral

The traffic-capturing role of integral trains was hailed at an RSMA seminar in Chicago.

Integral trains, in operation here and there on U. S. railroads, and their first cousins, unitized trains, are increasingly viewed as the forerunners of a billion dollar rail revolution right around the corner.

Experts view the integral trains as a "here and now"—and economically promising—answer to competition that has taken traffic off the rails and also as the solution to a host of problems, not the least of which is the age-old problem of low utilization ratios of rail car fleets. Experts also see integral trains as the vehicle via which railroads will go into ultimate automation (complete, in the view of one design man, with standardized containers each of which will produce the ton-miles of ten present day box cars and ten-story high terminal "machines" that will sort and distribute containers automatically).

A crowded auditorium of railroad officers, shippers and hardware experts at the Railway Systems & Management Association seminar on integral trains at Chicago last week (May 27-28) heard integral trains described as:

- Embodying the marketing and pricing concepts that "will create a healthy industry," in the words of NYC's President Alfred E. Perlman, because they will be "irresistible" in terms of operating efficiencies and in rate attractiveness to shippers;
- Capable of jacking up the ton-mile production of an average coal car from 50-75,000 ton miles per year to as much as 600,000-750,000 tons miles per year;
- A technique which has already demonstrated its ability to get business back on the rails from competing modes, as in the case of the Ohio coal pipelines, and "may well force a discontinuance in the expansion of petroleum products pipelines and ultimately cause the abandonment of existing facilities as maintenance and replacement costs increase," says A. J. Gellman, director of planning for North American Car;
- The device that may cause shipper demand for the transportation of commodities which historically have moved little or not at all because of prohibitively high transportation costs.

The overflow audience at the RSMA seminar heard of the need for over-

Trains Herald a Rail 'Revolution'

coming a few important problems before the integral train revolution gets fully under way. Problems include:

- Generally acceptable designs of equipment that will answer both operating needs and overcome the reluctance of the financial community to make heavy cash investments in new, "experimental" equipment that has limitations in terms of its possible general rail service, warned C. L. Bergmann, partner in R. W. Pressprich & Co.
- A host of technical problems which range from the various desirable economies that could be achieved by elimination of slack action on trains, to "more sure knowledge of what causes the need for maintenance" on equipment in this kind of service. Also, the RSMA audience got an intriguing view of the possibilities in the offing for integral trains via significant reductions in capital cost and operating weight of train equipment.
- The need for getting together with the labor organizations to iron out crewing requirements of the railroads in the integral train era ahead.

New container concepts

The RSMA experts outlined some intoxicating views of what railroading will look like when the integral train revolution is in full swing:

A high-speed, integral train approach to rail operation that will feature such things as standard containers and 10-story, automatic container-handling systems at terminals was sketched out by Alan R. Cripe, manager of metropolitan transportation and containerization for the Reynolds Metals Co. High-speed container trains shuttling between cities (containing people "pods" for passengers, too), while expensive from a capital investment standpoint, would permit vast savings over present day systems. Such a system would require 86,000 40-ft. containers, 86,000 20-ft. containers, about 100,000 LCL containers and 60,000 special highway chassis for local highway moves. At least 850 lightweight gas turbine electric integral container trains would be needed, in Mr. Cripe's view, each operating about 150,000 miles per year. Each container would do the work of ten box cars—at reduced cost and transit time. Mr. Cripe showed the RSMA audience slides of integral train sketches that embraced containerized motive power (a cab and skeleton frame with containerized power packs that could be removed for servicing every axle powered with small traction motors) which, he noted, would soon be able to operate with high frequency AC power inasmuch as such a motor is already under development for the military, and universally interchangeable containers in 40, 20, and five-foot containers. The system would require about "100 automated load centers for container transfer," he said. "Automatic container transfer systems now being developed can reduce transfer costs to as little as three cents per ton and can cut handling time to 30 seconds per container. Such systems will be fairly complex and expensive from a capital cost standpoint—but extremely cheap in the long run." Mr. Cripe went on to point out that shipping rates one-third to one-half prevailing haulage rates could be achieved with full integral train operation under such a system. Pointing out that the new Japanese Tokaido rail line between Tokyo and Osaka was built to handle 150-mph passenger trains and somewhat slower container trains—and that Dr. Ernest Beeching, head of British Railways, has launched a "liner train" program of integral container trains on a crash basis to stop the financial attrition that "has sapped the strength of the British railroads," Mr. Cripe said, "Soviet Russia is known to be working hard on containerization systems and today about 6% of Soviet rail movements are containerized. In coming years Russians expect to increase this to 15% of total ton-kilometers on Soviet railroads—and keeping in mind the fact that their railroads provide 80% of all ton-kilometers of transport, this is indeed impressive."

F. S. Macomber, partner of A. T. Kearney & Co., management consultants, pointed out to the RSMA audience that greatly increased tonnages will be achieved with integral train operation if double-tiering of containers and mixing of freight of different densities is made an inherent part of future integral container trains. "Air turbulence," noted Mr. Macomber, "under conventional trailer bodies increases drag by 30%, some say. And capital and weight tied up in trailer wheels becomes increasingly expensive as hauls get longer."

W. B. Saunders, of W. B. Saunders & Co., described the market for integral trains in terms of projected markets and costs: By 1980, consumption of bituminous coal and lignite by manufacturing and mining industries will increase from 1962's 359.1 million tons to an estimated 893 tons. He cited 30 bulk commodities, ranging from corn to salt, gasoline and sulphur, now moving by rail—and barge—which might, if integral train equipment and service is suitable, move in trainload lots. He cited bulk inland waterway traffic that might go by rail if integral train service were properly attractive as amounting to more than 8,400 trains of 8,000 tons each—of such commodities as iron and scrap steel, industrial chemicals and aluminum ore to tar, alcohols and soybeans. Mr. Saunders described the comparative costs of integral train operation graphically as compared with equipment in shuttle service and in ordinary freight service. Shuttle service hoppers, he said, moved 15,300 tons per year (compared with 1,200 tons for average hopper cars in ordinary freight service)—but were a long way from the 25,600 tons moved by a 100-ton car in integral train service. Mr. Saunders pointed out that the rail investment for the average hopper car in service comes to about $4.17 per ton—whereas a new hopper car in shuttle service represents an investment of 86 cents per ton.

Mr. Perlman, keynoting the RSMA seminar, outlined the awsome importance of integral train development for the railroads.

Car "waste" criticized

"The lack of pricing techniques to take fully into account concepts of load factor—and give to the customer the incentive to increase the utilization of the railroad's plant and equipment has led to what, in my opinion, is the greatest waste in all the transportation industry—the utilization of the car fleet. We calculate that on our railroad, because of the way cars are allowed to be utilized under present tariffs, our freight car fleet consumes over 15% of our gross freight revenues." Pointing out that inept pricing in the past (". . . the lowest price finally established by any one railroad rapidly becomes the general price level . . .") has been due to lack of adequate staff analysis, Mr. Perlman said, "Rapidly expanding analytical staff work . . . has the industry in a marketing ferment. Tremendous new impetus has been achieved by the deep interest now being displayed by chief executive officers, many of whom have heretofore left this field solely to their experts." Mr. Perlman's summing-up: ". . . the integral train is the symbol, and marketing is the substance, of the basic revolution that is now going on in the railroad industry."

Discussing carrier strategy with integral trains, L&N Vice President-Traffic W. Gavin Whitsett described L&N's careful, progressive experiences with

unitized and integral trains. L&N's 100-ton hopper cars, equipped with slope sheets steeper than conventional cars, are lined with stainless steel and equipped with electric motors to operate the doors, which can empty the car in 24 seconds. Costing $17,500 compared with $11,000 for a conventional 70-ton hopper car, a train of 50 of these cars will replace a unitized coal train presently in service that requires two sets of 70-ton cars, 63 cars to the train or a total of 126 cars. L&N has six integral train operations handling, with 2,960 cars, a volume of coal formerly requiring 4,120 cars—a saving of 1,160 cars. Additionally, L&N is putting into service this summer a unitized train that will handle about two million tons of coal annually. This service presently requires 600 cars—but the entire movement will be handled in unitized service by 128 cars. "Every bulk commodity," said Mr. Whitsett, "moving by barge transportation in year-round substantial quantities is susceptible to rail movement." Rates, he noted, won't be reduced in all cases, but will help railroads obtain a more reasonable return—and the shippers and receivers, using fast loading and unloading facilities, will effect savings over their present methods. "Integral trains will provide the fastest bulk moves, with most cargo at the least cost."

Charles J. Henry, Jr., B&O vice president of marketing, told B&O's experience with poor car utilization and cited results of a study directed at improving profitability of handling B&O's annual 14-15 million tons of coal traffic. Where receivers formerly received extras without charge (cars were used for a storage at ports—shippers were given seven day's free time at ports), now coal is loaded in 24 hours, unloaded in 24 hours. Started April 1, trains remain intact throughout operation, and achieve a planned seven day turnaround. Producers have adapted, providing storage facilities or increasing production to get tonnage on schedule and receivers have also adapted, reducing "car banks."

Discussing actual operating experiences, C. H. McGuirk, general superintendent of maintenance for the Quebec Cartier Mining Co., described the operation of a 125-car train, loaded in 2½ hours at mine site and checked out in 3½ hours. The QCMC train operating on a seven-hour running schedule geared to the production of ore concentrate, recently was increased to 136 cars, with a turnaround every second day, Mr. McGuirk said.

The Quebec North Shore & Labrador limits its service to yard-to-yard hauls, leaving the rest of the operation to the mining company, according to J. A. Little, QNS&L general manager. The train, operated by a three-man crew, runs 14 hours between terminals and is loaded in 14⅔ hours. Optimum turnaround, said Mr. Little, is 72 hours for cars and 43 hours for motive power. The road's figures for 1963: 10.3 million long tons: $9.3 million in direct operating costs, or approximately $.90 per long ton. Maintenance of track and structures absorbed 47% of costs; maintenance of equipment, 22%; transportation, 23%, and general expenses, 8%.

The integral train operation which defeated competition from a Peabody Coal-Commonwealth Edison pipeline was not "sophisticated and exotic on purpose," according to J. C. Kenefick, New York Central assistant vice president-transportation. NYC didn't want to make the operation contingent on "iffy questions," depending upon technological developments not yet proved, Mr. Kenefick said.

Integral trains still will have the problem of frozen lading during winter months, and the Pennsylvania is experimenting with a chemical spray which would insulate cars, said J. J. Clutz, PRR director of research. Another possible solution: cars heated en route with direct current supplied by locomotives stationed at intervals throughout the train.

Better Car Placing Is SW Board Goal

Shipper-carrier committees may lead to more successful car allocation in the southwest, according to D. C. Davis, traffic manager of the Port of Lake Charles, La.

Shippers are requiring an increasing supply of special equipment, Mr. Davis said in a report to the Southwest Shippers Advisory Board, at Lubbock, Tex., May 22, and the carriers are "faced with the problem of trying to determine on what basis their car supply should be built." Railroads have attempted to adjust the car supply to apparent shipping trends, he said, but "a more realistic and constructive approach" would have the shippers predict their needs for special equipment and the carriers consider the predictions in ordering cars. "Special equipment," Mr. Davis said, "is quite expensive when compared to the ordinary box car, and, while an adequate supply is desirable, an over supply should be avoided."

For the Southwest Shippers Board, Mr. Davis said, commodity committees "should, with some effort of evaluation, be able to fairly accurately predict their needs for specialized equipment over an extended period."

'Get the Animal

"Beastly business, this advertising game," one ad-man noted grimly.

"A regular jungle," replied his companion, glancing warily over his shoulder.

And then the pair returned to the job at hand—filming lions, giraffes, cheetahs, camels, hippos and even a recalcitrant elephant for, of all things, a new series of General American [illegible].

So it is that the ability of a G-85 piggyback car to carry wider loads will be illustrated by a hippo waddling down a railroad track; the car's fast loading - unloading feature casts a cheetah in the starring role; and the car's versatility brings the whole menagerie into the picture.

This whole wild-animal idea was born, if one is to believe the story of the Edward H. Weiss & Company agency, in a 24-minute conference one morning in Chicago.

An artist and a writer hit on the plan, to the tune of a "Go, go" chant from the account executives.

Once the idea was planted, plans for a safari "deep in the Southern California veld" quickly took shape, as the Weiss agency's artist laid in provisions and film (and made arrangements for the presence of certain actors, such as hippos and elephants, not considered native to the area).

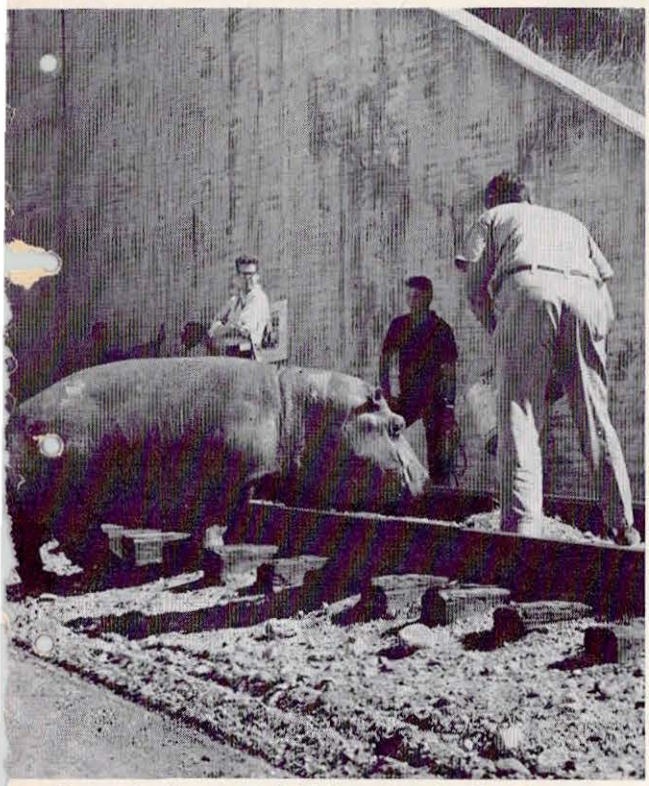
Two days after safari began, as the agency tells it, "our artist returns to civilization. With him are two clawed cameramen; a somewhat dazed animal trainer; a strange man in locomotive-engineer's coveralls who keeps muttering, 'But I tell you I saw it—a hippo right in the middle of the tracks'; and three of the wildest ads you will ever see."

Aside from a few difficulties—elephant which lumbered off toward the hills, taking part of a steel fence with him; a cheetah also with a hankering for the boondocks; and a lion which found the whole business pretty dull—the safari was a success.

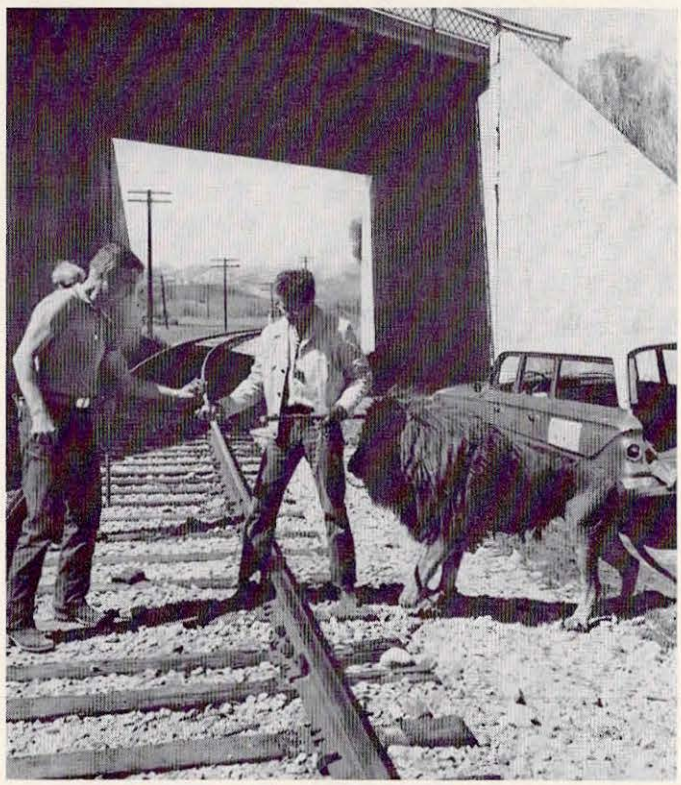
But Weiss' crew does have a few words of advice, should anybody else want to stage an ad-animal act: "It helps if you have a securely fastened railroad track handy—and several lengths of pretty thick chain. Optional: the ability to run the 100 in 9 seconds flat."

Or, as one weary artist commented: "Who ever said advertising's getting too tame?"

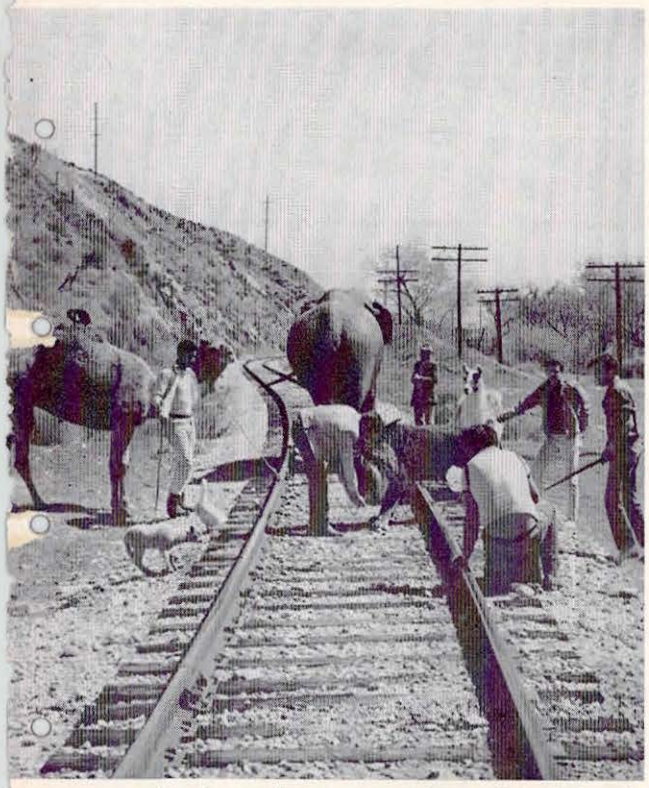
'rainer: They're Set to Shoot the GATC Ads'



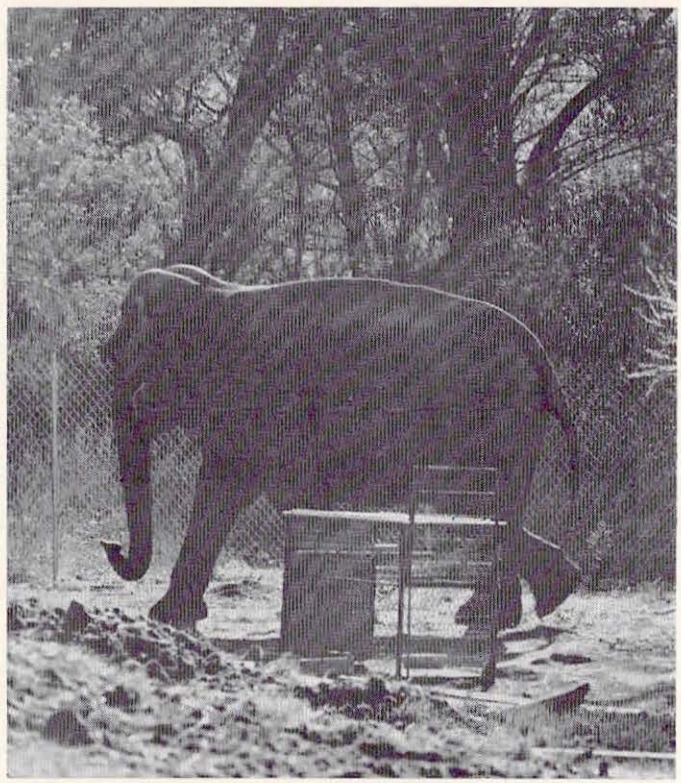
Formula for an ad: Take one docile hippo . . .



. . . add a weary lion, who couldn't care less . . .



. . . and mix well on a nearby railroad track.



And then, fellows—well, gangway, there goes Jumbo.

YOU OUGHT TO KNOW

SKF Industries, Inc., is the winner of the 12th annual Golden Spike Advertising Competition sponsored by the Association of Railroad Advertising Managers. Silver spike plaques were awarded to Bethlehem Steel; Citrus Processors Association, Inc.; and Edward H. Weiss & Co., agency for General American. Special merit awards went to Chevrolet Motor Division of General Motors and to the St. Louis Globe-Democrat. The Golden Spike award is given each year to the advertiser outside the railroad industry who is judged to have made the most outstanding contribution through advertising to a better understanding and appreciation of American railroads. E. K. Lofton, manager, railway sales for SKF, accepted the top award from J. M. Hagen, advertising manager, Great Northern, and chairman of the ARAM awards committee.

The ICC has amended Section 131 of 49 CFR concerning safety regulations applicable to operation of track motor cars: "On and after Aug. 1, 1963, it shall be unlawful for any railroad subject to the requirements of the Safety Appliance Acts to operate or permit to be operated on its line track motor cars to pull or haul trailers, push trucks, hand cars, or similar cars or equipment."

Transportation costs too much—but consumers will get lower prices and shippers better service when railroads are able to overcome problems related to obsolete regulation, obsolete work rules and inequitable taxation, Milwaukee President William J. Quinn declared in a recent televised panel discussion. The present regulatory framework in which railroads are forced to operate, he pointed out, "does not permit us to achieve the unit costs that our potential would permit and, therefore, we're not able to pass these savings . . . on to the consuming public."

A new agreement providing for effective utilization of freight forwarders by the armed forces during national emergencies has been signed by the Defense Traffic Management Association and the Freight Forwarders Institute. Terms include provision for liaison between the two organizations and, in time of emergency, for coordinated action to facilitate movement of military traffic by forwarder transportation.

New wage and fringe-benefit demands may be on the way from the non-ops. Delegates to the recent Brotherhood of Railway Clerks' convention approved a resolution calling for substantial wage increases, longer paid vacations, nine paid holidays, an increase in carrier-paid group life insurance coverage and extension of hospital-surgical-medical benefits (at carrier expense) to retired employees. BRC is the largest of the non-op groups.

The 1962 navigation season is being hailed as a "record year" by St. Lawrence Seaway administrators in the U. S. and Canada. Cargo tonnage, final reports show, was up 9.3% from 1961 levels, to a new high of almost 25.6 million tons. Wheat tonnage was down sharply, but the loss was more than offset by gains in other grain traffic. Iron ore showed the biggest increase—from 4 million tons in '61 to 6 million last season. Canadian ships, the reports note, carried 56% of the cargo moving through the Seaway last year; U.S.-registry ships were well down the list, at 3.7%.

Fines totaling $25,450 were paid in April by 26 railroads for violations of the Safety Appliance Hours of Service Signal Inspection and Accident Reports Acts. Biggest payers, according to the ICC, were Union Pacific and Cotton Belt, assessed $3,750 and $3,250, respectively.

Transportation studies contemplated by President Kennedy's transportation message will be financed with only half the appropriation which the President sought for the current fiscal year. The request was for $1,250,000, but Congress appropriated only $625,000. The President assigned this research job to the Department of Commerce, where it is under the direction of Dr. E. G. Plowman, deputy undersecretary for transportation.

The gap is widening between the traditional practice of transportation and the growing body of sophisticated transportation knowledge, according to Dr. Eliezer Krumbein, education director of Northwestern University's Transportation Center. Carriers and shippers should conduct a "transportation audit" to discover their weaknesses, Dr. Krumbein says, and then use professionally trained transportation men to seek solutions. Because professional transportation graduates are rare, he believes, "management will have to select men from its existing staff to receive a concentrated in-service program of professional transportation education."

An added charge is being proposed by the Eastern Central Motor Carriers Association for all shipments under 1,000 pounds moving on class or commodity rates in all ECMCA territories. According to the association, the extra charge ($1 per shipment) still wouldn't put small shipments on a break-even basis, but it would cut the group's over-all operating ratio (estimated) for this year to about 96.5%. Without the extra $1, the over-all ratio figures to be 99% and the small-shipments ratio about 110%.

A policy decision supporting "soundly conceived mergers between carriers of the same type" has been reinforced by publication of a new brochure by the Transportation Association of America. "While TAA neither endorses nor opposes any specific transport merger," the booklet notes, "it strongly supports mergers in principle and believes that the many affected interests are now provided adequate safeguards under existing laws."

A RAILROAD BOOK YOU MUST READ

QUEST FOR CRISIS

by James Sites

The author, on an Eisenhower Exchange Fellowship, has visited 25 nations to bring you an eye-opening account of what's happening in railroading and transport the world over . . .

While cities cry for fast, efficient urban transit service . . . railroad service dwindles!

While air travelers find airways more and more dangerously overcrowded . . . fewer trains run between American cities carrying ever-fewer passengers!

While more tax dollars than ever before are doled out for transport subsidies . . . some common carriers are going broke, others nearing financial collapse!

What's wrong? Why does America bog down a little deeper every day in this colossal transportation muddle?

In a year-long search for causes and clues to the possible solution of the problem, the author traveled from Europe through the Middle East to India and Russia. He talked with officials of all forms of transportation, with ticket clerks and Transport Ministers . . .

A London professor of transportation: "You Americans appear not only to be undermining a great industry but to be throwing away a great national asset."

In Belgrade: "Communists consider the deterioration of transportation in capitalist countries a sure sign of the coming collapse of the West."

A bewildered Swiss official: ". . . what are you Americans trying to do to your railroads? Is your government out to destroy them?

AND THESE SHOCKING DEVELOPMENTS — *In BRITAIN — "muddling through" on public policies stirs up transport turmoil, turns British railways into an economic and physical monstrosity. In NORTHERN IRELAND — officials admit that for special reasons, it's a matter of time before railroading is abandoned entirely. In SWITZERLAND — Sound government policy, good management, make money and friends for Swiss railroads. In ITALY — overload of politics in transportation produces bulging losses. In the U. S. S. R. — super-railroads in the making to handle titanic traffic loads. In SPAIN — new track construction nobody uses. In BELGIUM — public taken for a "free" ride. In GREECE — railroads run up biggest deficits in Europe. In FRANCE — SNCF streamlines equipment, turns to daring price innovations. In GERMANY — equal government treatment for all carriers becomes the byword. In the MIDEAST — transport runs wild, the public pays the bill.*

CONCLUSIONS? Is there a way out? Yes! For clues to this future, read QUEST FOR CRISIS!

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Chicago area. Experienced man for checking and preparing AAR repair bills. Must have knowlege of current rules. Furnish qualifications and salary expected. Box 2763, RAILWAY AGE, 22 West Madison Street, Chicago 2, Illinois.

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Large Class I railroad needs regional freight traffic manager—sales. College graduate or equivalent. Attractive salary and benefit program. Our people know of this advertisement. Replies strictly confidential. Submit complete resume. RAILWAY AGE, Box 545, 30 Church Street, New York 7, N.Y.

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Better Urban Transport

The key to economic development of transport in urban centers is to collect tolls on highway use wherever congestion occurs.

The Washington, D.C., Post recently called attention to an article by two British writers—one an engineer and the other an economist (by name, G. J. Roth and J. M. Thompson), questioning the present system of charging for highway service. Specifically, they found irrational the system of a flat charge for a vehicle license, and a uniform gallonage charge on fuel—*regardless of where or when the vehicle is driven.*

They likened this system of charging for highway use to a uniform price, of say 60 cents a pound, for meat—whether it was bologna, fish, hamburger or fancy filet mignon. Under such a system of charging for meat, the filet mignon counter would be crowded and the soup bones would go begging.

Under a similarly uneconomic system of charging for highway use, our most costly highways (i.e., superhighways in urban areas) are badly congested, particularly at work-to-home travel times, and rural highways are usually lonesome roads for the users.

It is the function of a pricing system to equate supply and demand—and this is done by establishing higher prices for goods and services in heavy demand, which induce persons whose demand is not quite so intense to be satisfied with less high-priced services and products.

If everybody is entitled to filet mignon at 60 cents a pound, a lot of costly steers will have to be sacrificed to supply those customers—and less popular meat will be left over to spoil. For exactly parallel reasons, our urban highways are overcrowded at certain hours of the day—and they will continue that way until extra charges are assessed for highway use at times of likely congestion.

The viewpoint of these British writers is not unique with them. Professor William Vickrey of Columbia University has been writing and speaking on the subject for some time—and has suggested the installation of electronic and other metering devices (as do the British writers) which would record the identity of vehicles using highways at congested periods, so that extra charges could be collected from their owners. The New York Regional Plan Association and Dr. Lyle C. Fitch of the Institute of Public Administration have expressed similar opinions.

It is this practice of uneconomic undercharging for the use of congested highway facilities that has made necessary some similar shifting to non-users of part of the cost of many rail transit and suburban train operations. An uneconomic system of pricing highway use is the bad apple that threatens to infect the whole urban transportation barrel. The Regional Plan Association had this to say:

"By adjusting tolls on entries to the central business district, we would use the price mechanism to assure that those who really need to drive would be able to enter without delay, and we would raise the price of driving during peak hours closer to its actual cost. At the same time we would encourage drivers to use public transportation without forcing them to do so."

As things go now, the fellow with a 10-cent urge to drive his car at a particular time and place may be pre-empting space that many a driver on a really urgent trip would gladly pay $5 to be able to use. The set-up just does not make economic sense—or horse sense either.

Meantime, most big cities are hard pressed for funds. They are over-taxing business and driving it into the suburbs—while at the same time they are practically giving away the use of the country's highest-valued real estate, setting it aside for movement and parking of hundreds of thousands of vehicles that get the service for free or practically so.

Highways Are a Public Utility

This paper could not favor, on economic grounds, charges on motor vehicles as any form of penalty. In smaller communities, there is nothing economically wrong with the mere pennies charged for parking (or even free parking)—where the space used would be otherwise unoccupied. There's nothing uneconomic about allowing a bunch of kids to play ball in an unused lot, for free. But it would be improvident if the lot were reserved for the juvenile ball team, thereby denying the use of the space to a productive and tax-paying enterprise.

Most railroads have no selfish concern one way or the other with urban passenger transportation—and cannot be expected to carry the flag for desirable reforms in the way it is conducted. Leadership is the duty of civic organizations which are dedicated to such projects. But as responsible citizens, railroaders have the same duty to support economic practices in this area that they do in all aspects of healthy urban conditions.

Highways are a public utility—just as much so as electric power is. When municipalities take cognizance of this fact—and establish pricing and taxation in this area, similar to that applied to other utility enterprises, our cities will become a lot more prosperous than most of them are today. And the total costs of transportation service will be reduced and its quality improved.

true story

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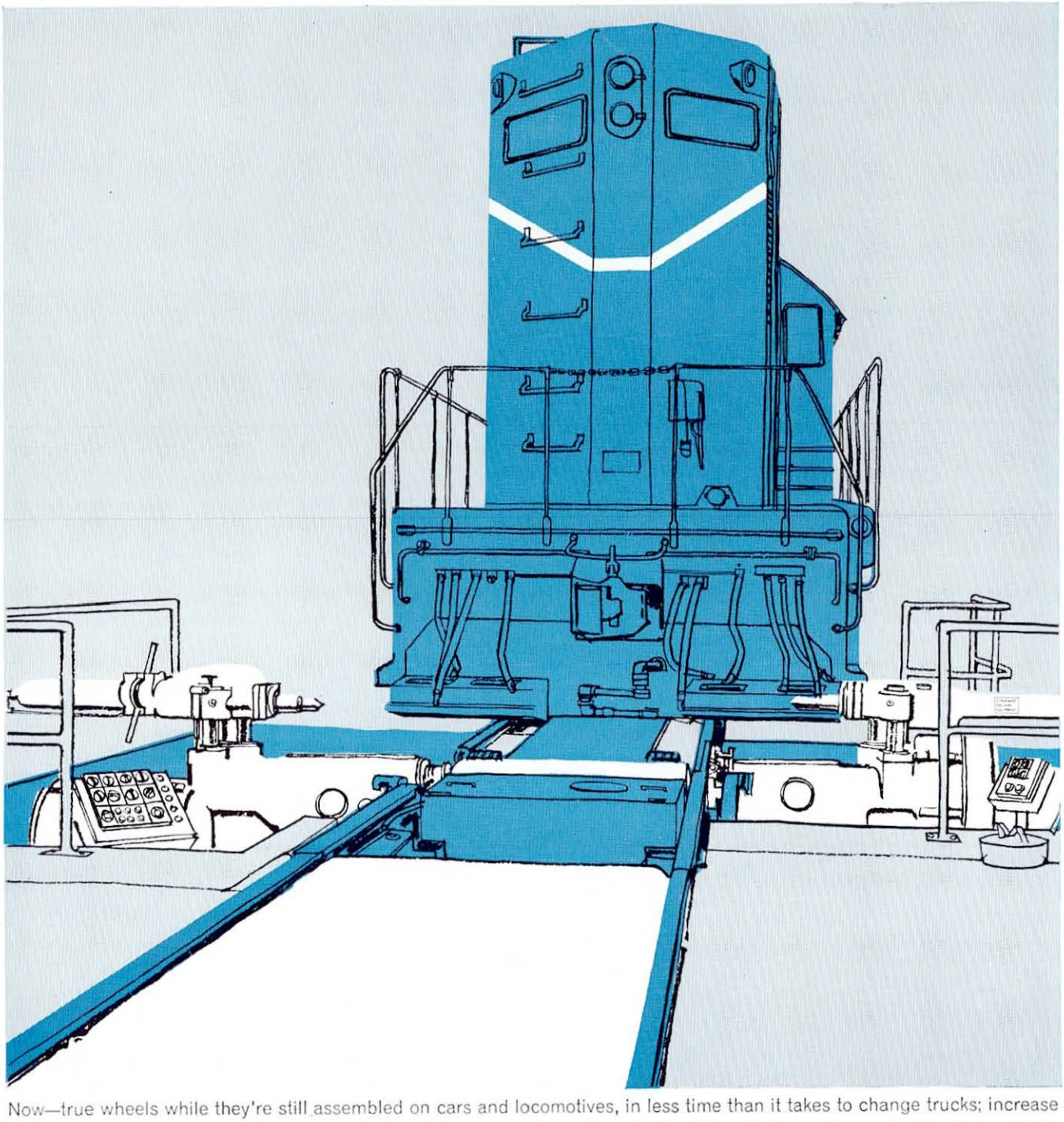

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